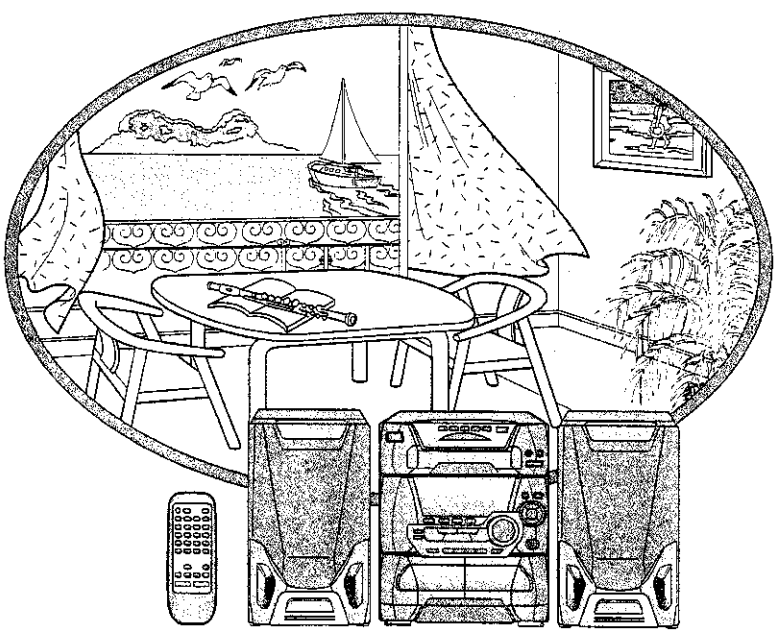
Panasonic®

CD Stereo System

SC-AK15

Operating Instructions



COMPACT disc DIGITAL AUDIO

Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

EP GN

RQT4272-L

Dear customer

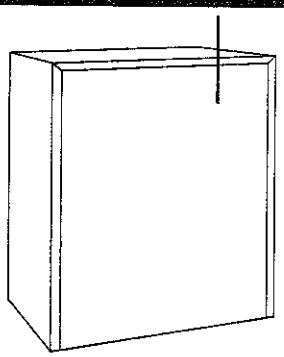
Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

These operating instructions are applicable to the following systems.

System	SC-AK15
Main unit	SA-AK15
Speakers	SB-AK15

CLASS 1
LASER PRODUCT

(Back of product)



DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	(Inside of product)
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.	(Indersiden at apparatet)
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	(Tuotteen sisällä)
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.	(Apparatens insida)
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.	(Produktets innside)
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.	(Im Inneren des Gerätes)

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION!
DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE IN ORDER TO KEEP WELL VENTILATED CONDITION. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION CONDITION TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.

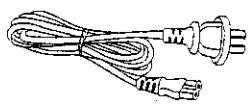
THIS MUSIC SYSTEM IS CAPABLE OF RECEIVING THE NEW AM STEREO BROADCASTS FROM THE AM BAND RADIO STATIONS. HOWEVER LIKE MANY MUSIC SYSTEM CURRENTLY AVAILABLE ON THE MARKET IT WILL REPRODUCE THIS AM STEREO SIGNAL ONLY IN AM MONO, WHICH, IN EFFECT, IS OF NO LESSER QUALITY THAN YOUR EXISTING AM MONO MUSIC SYSTEM.

Supplied accessories

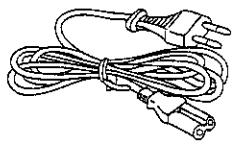
Please check and identify the supplied accessories.
Use numbers indicated in parentheses when asking for replacement parts.

☐ AC power supply cord ..... 1 pc.

For Australia and New Zealand (RJA0035-A)

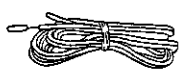


For others (RJA0019-2K)

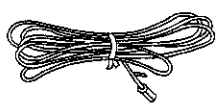


☐ FM indoor antenna ..... 1 pc.

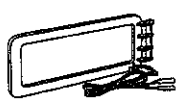
For Australia and New Zealand (RSA0006)



For others (RSA0007)

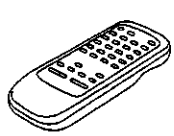


☐ AM loop antenna set (RSA0022)
AM loop antenna ..... 1 pc.

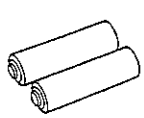


Antenna holder ..... 1 pc.

☐ Remote control transmitter ..... 1 pc.
(RAK-CH940WK)



☐ Batteries for remote control ..... 2 pcs.
(R6/LR6, AA, UM-3)



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Suggestions for safety

Placement

Avoid placing the unit in areas of:
- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.
To protect the unit against sound distortion and acoustical effects, please place the unit at least 15 cm away from wall surfaces etc.

Stacking

Never place heavy items on top of the unit or the power cord.

Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.
  A fire might be caused by such a connection.
- A DC power source cannot be used.
  Be sure to check the power source carefully, especially if on a ship or other place where DC is used.

Power cord protection

- Avoid cuts, scratches or poor connection of the AC power cord, as this may result in fire or electric shock.
  Excessive bending, pulling or slicing of the cord should also be avoided.
- Do not pull on the cord when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the power supply.
- Never touch the plug with wet hands or a serious electric shock could result.

Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit or through the ventilation holes.
  Otherwise, a serious electric shock or malfunction could occur.
- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.
  (Disconnect the power plug and contact your dealer immediately if this occurs.)
- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.
- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

Service

- Never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem.
  A serious electric shock could result if you ignore this precautionary measure.
- If a problem occurs during operation (the sound is interrupted, indicators fail to light up, smoke is detected, etc.) contact your dealer or Authorized Service Center immediately.
- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.

Concerning the remote control

Battery installation A

Use of batteries

- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use rechargeable type batteries.

Battery life

The battery life is about one year.

The batteries should be replaced if commands from the remote control transmitter do not operate the unit even when the transmitter is held close to the front panel.

Correct method of use B

Operation notes

- Do not place obstacles between the remote control signal sensor and remote control unit.
- Do not expose the remote control signal sensor to direct sunlight or to the bright light of an invertor fluorescent light.
- Take care to keep the remote control signal sensor and end of the remote control unit free from dust.
- If this system is installed in a rack with glass doors, the glass doors' thickness or color might make it necessary to use the remote control a shorter distance from the system.

To prevent damage

- Never place heavy items on top of the unit.
- Do not disassemble or reconstruct the unit.
- Do not spill water or other liquids into the unit.

Placement of speakers

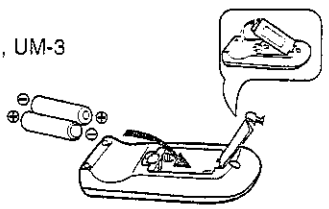
For your listening pleasure, keep your speakers from touching the stereo.

Refer to the illustration. C
Speakers are designed identically so that no left or right channel orientation is necessary.
Do not take the front net off speakers.

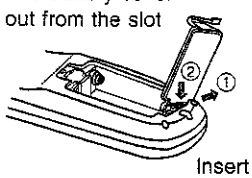
A

Insert the batteries in the correct polarities (⊕, ⊖).

R6/LR6, AA, UM-3

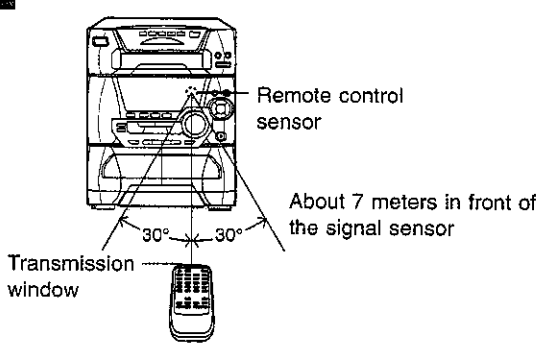


In case the battery cover comes out from the slot

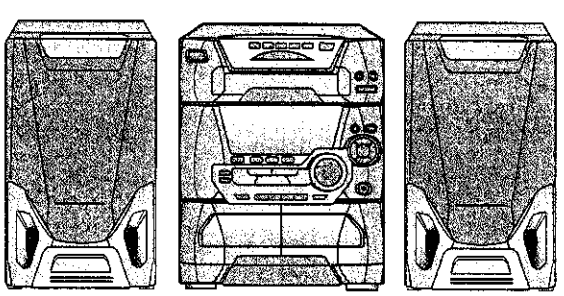


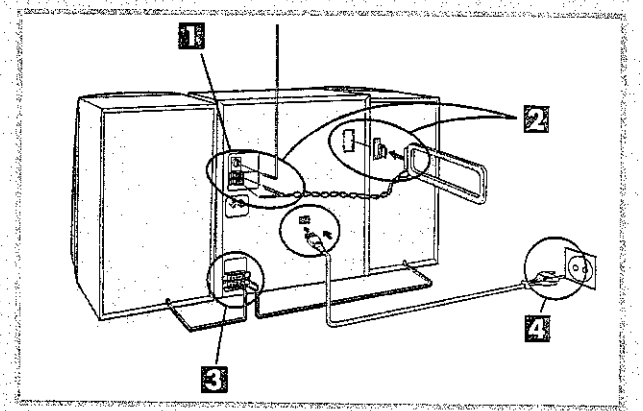
Insert the battery cover back to the slot as shown

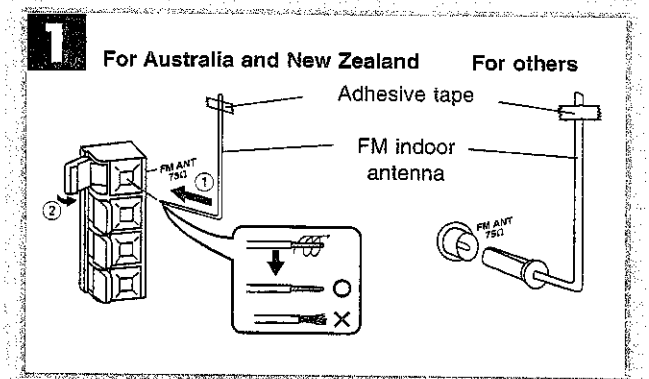
B

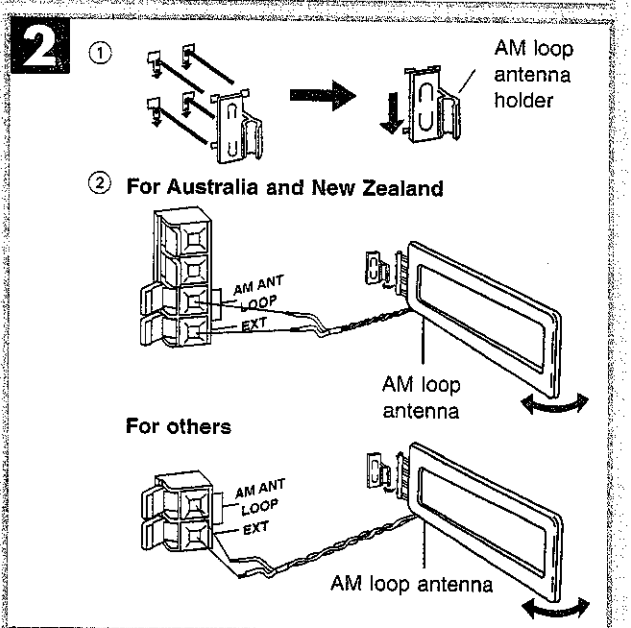


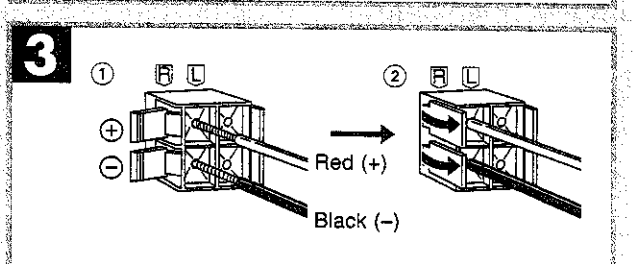
C

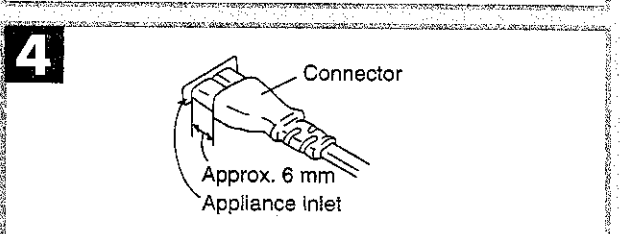












Connections

Basic connections

Plug the AC power cord into a household AC outlet only after all other connections have been made.

1 FM indoor antenna

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

For Australia and New Zealand

The configuration of the FM Antenna terminal is different.

For best reception sound quality:
An FM outdoor antenna is recommended. (See page 7.)

2 AM loop antenna

After attaching the antenna, turn on the system and tune in a broadcast station. Then, turn the antenna to the angle of best reception and least interference.

3 Speaker cords

Match the cords to the terminals by color and connect.

Note

To prevent damage to circuitry, never short-circuit positive (+) and negative (–) speaker wires.

4 AC power supply cord

For Australia and New Zealand

The configuration of the AC power supply cord is different.

Insertion of Connector:
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.

Caution
Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

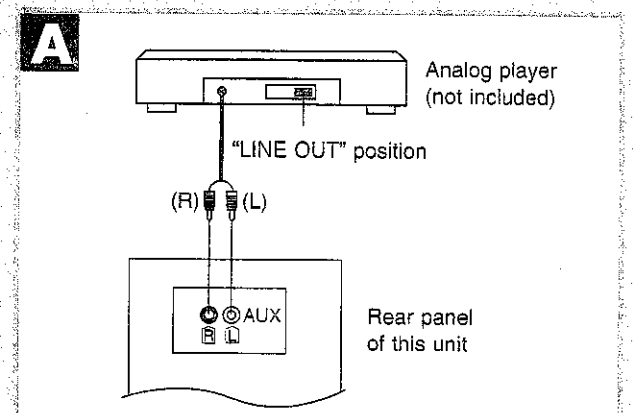
Connections

External unit connection A

- For details, refer to the instruction manual of the units which are to be connected.
- This example shows how to connect an analog player with the PHONO OUT/LINE OUT switch.
- When units other than those described below are to be connected, please consult with your audio dealer.

Note

- Only an analog player with a built-in phono equalizer can be connected.
- Set the switch to the "LINE OUT" position at the back of the analog player.



Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

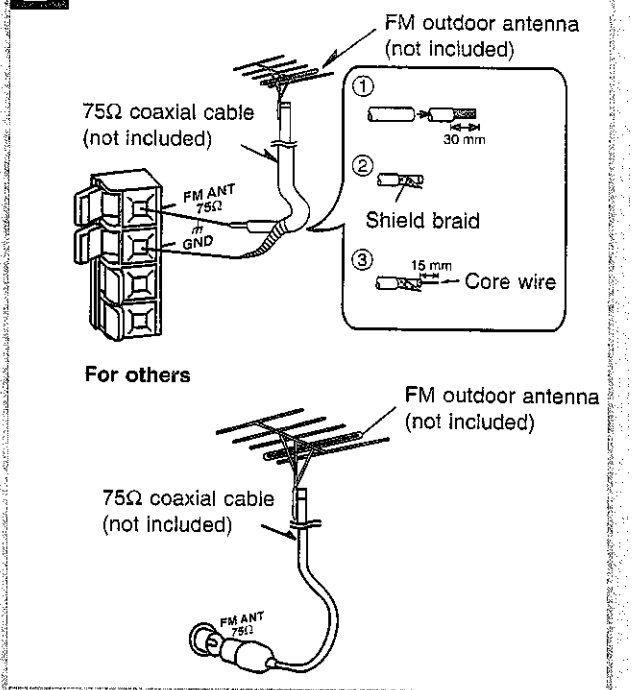
FM outdoor antenna B

Disconnect the FM indoor antenna if an FM outdoor antenna is installed.

① Remove a piece of the outer vinyl insulator.
② Twist the shield braid.
③ Expose the core wire.

Note

An outdoor antenna should be installed by a competent technician only.

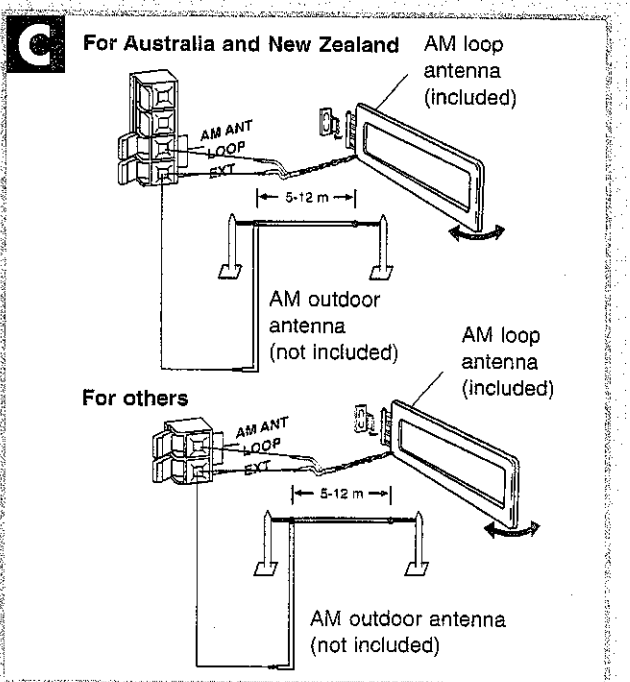


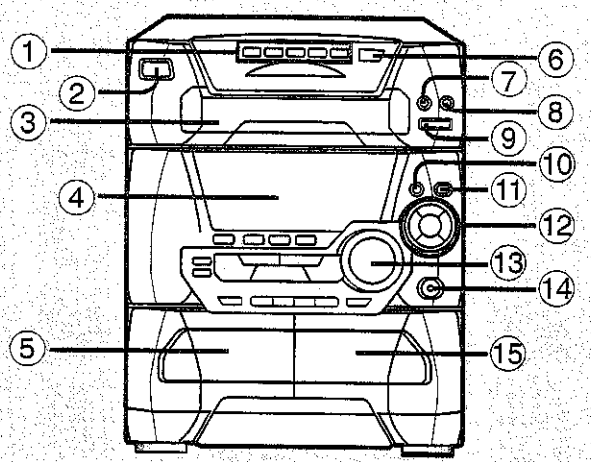
AM outdoor antenna C

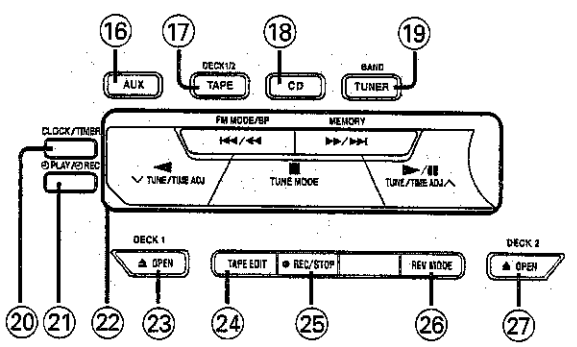
Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.







Front panel controls

① **Disc select buttons and indicators (DISC 1 – DISC 5)**

② **Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

③ **Disc tray**

④ **Display**

⑤ **Deck 1 cassette holder**

⑥ **CD manager button (CD MANAGER)**

⑦ **Disc tray open/close button (⏏ OPEN/CLOSE)**

⑧ **Next disc tray open button (⏏ NEXT OPEN)**

⑨ **Random play button (RANDOM)**

⑩ **Display select/demonstration button (-DISPLAY/–DEMO)**

⑪ **V.BASS button (V.BASS)**

⑫ **Sound equalizer buttons (SOUND EQ)**

⑬ **Volume control (VOLUME)**

⑭ **Headphone jack (PHONES)**

⑮ **Deck 2 cassette holder**

⑯ **AUX button (AUX)**

⑰ **Tape/deck select button (TAPE, DECK 1/2)**

⑱ **CD button (CD)**

⑲ **Tuner/band select button (TUNER , BAND)**

⑳ **Clock/timer button (CLOCK/TIMER)**

㉑ **Play timer/record timer button (⏲PLAY/⏲REC)**

㉒ **Basic operating buttons**
Buttons change according to the source.

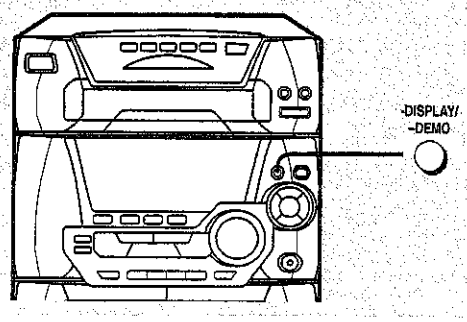
㉓ **Deck 1 open button (⏏ OPEN, DECK 1)**

㉔ **Tape edit button (TAPE EDIT)**

㉕ **Recording start/stop button (● REC/STOP)**

㉖ **Reverse mode select button (REV MODE)**

㉗ **Deck 2 open button (⏏ OPEN, DECK 2)**



Demo function

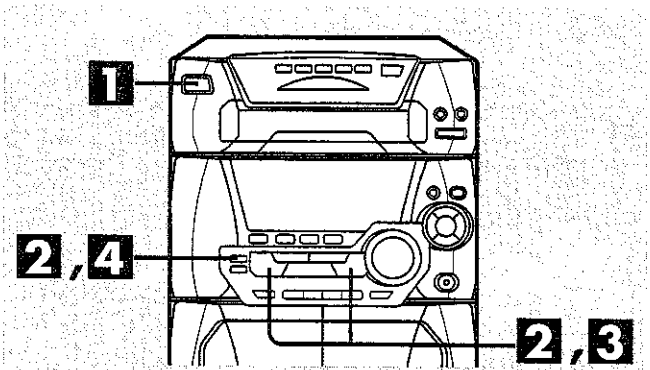
The demo function changes the display to simulate an airplane taking off from an airport.

Turning the demo function ON/OFF
Press POWER and hold down -DISPLAY/–DEMO.
Every time you hold down the button:

DEMO ON ⟷ NO DEMO

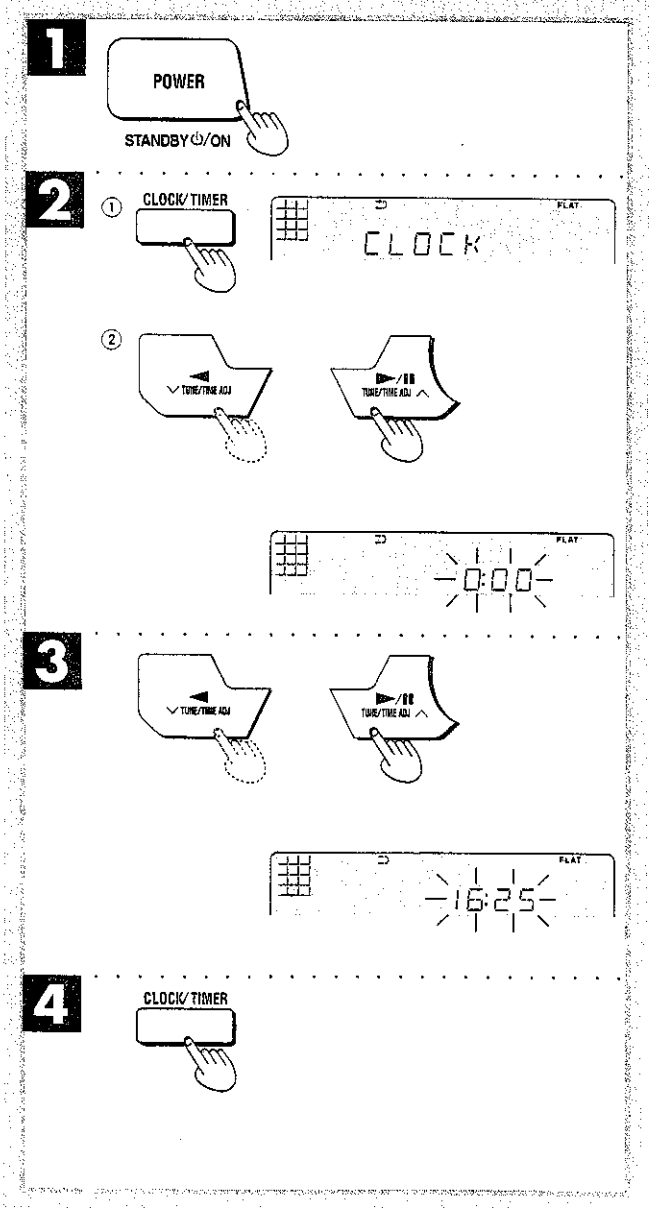
When the demo function is ON, the demo is played automatically in the following cases.

- **When the system is ON**
  If the input source is set to CD or tape, and the system is stopped for more than 2 minutes
- **When the system is OFF**
  If the clock has not been set



Setting the time

This is a 24-hour display clock.
This example in the figure shows how to set the time for 16:25 (4:25 p.m.).



1 Switch on the power.

2 ① Press CLOCK/TIMER to select "CLOCK".
Every time you press the button:

CLOCK → ⏲PLAY → ⏲REC
↑ └ Previous display ←┘

② (within 5 seconds or so)
Press ∨ or ∧ to set the time display flashing.

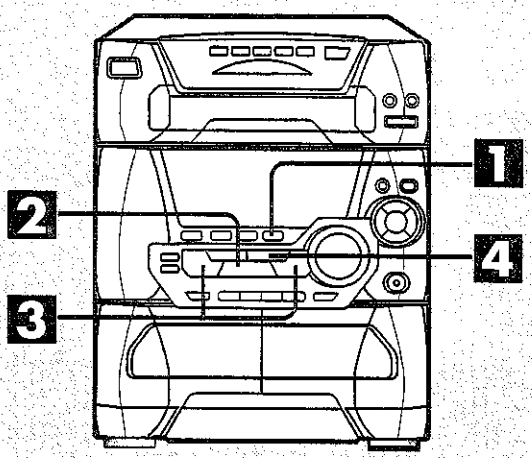
3 Press ∨ or ∧ to show desired time.
The time display can be changed in one minute units by tapping the buttons, and quickly by holding down the buttons.

4 While the time display is flashing:
Press CLOCK/TIMER.
The clock now starts operating, and the display returns to its original status.

To display the time when power is ON
Press CLOCK/TIMER to select "CLOCK".
The time will be displayed for about 5 seconds and then the display will return to whatever was previously displayed.

Presetting radio broadcasts

- Up to 12 stations can each be set in the FM and AM bands automatically.
- If broadcast frequencies are preset in the memory, you can easily tune in any of these frequencies from the system or remote control unit.
- You can preset just those stations you like. (See "Presetting only your favorite stations" below.)



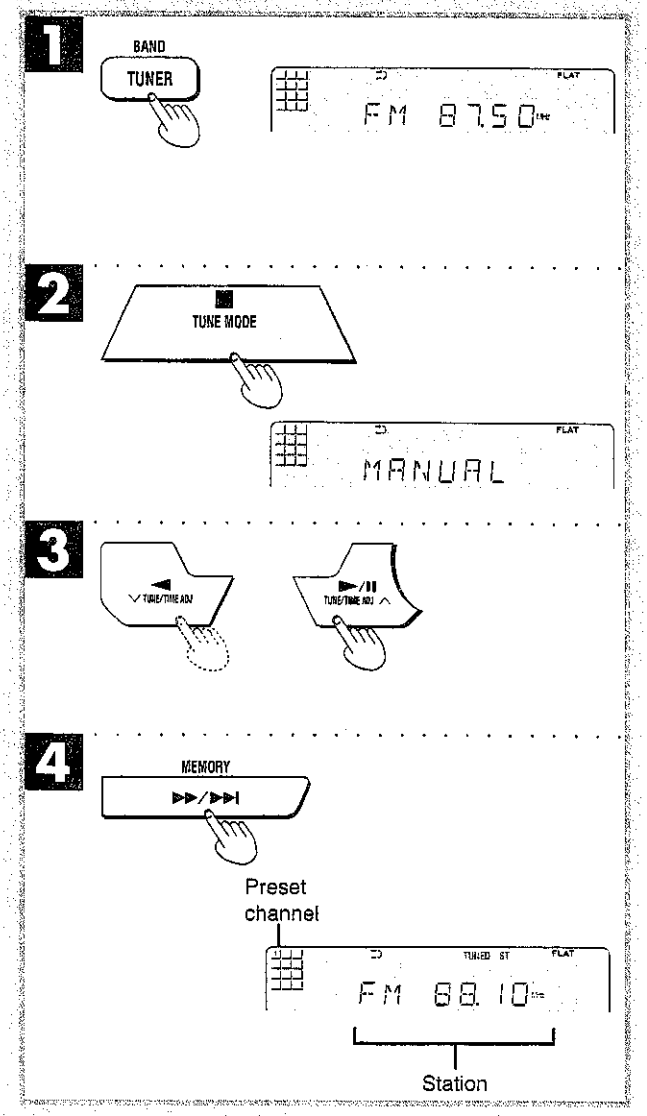
1 Press TUNER BAND to select "FM" or "AM".
The power will come on automatically.
Every time you press the button: FM ⟷ AM.

2 Press TUNE MODE to select "MANUAL".
Every time you press the button: MANUAL ⟷ PRESET.

3 Press ∨ or ∧ until the display shows the frequency from which you want to begin automatic memory presetting.

Tips on tuning in radio stations
① Hold down either arrow button until the frequency numbers start scrolling.
② When near to the frequency you are looking for, press the button repeatedly until the station is tuned in.

4 Press and hold MEMORY until the frequency begins to change.
This will start presetting automatically. When finished, the radio will tune in the last station memorized.

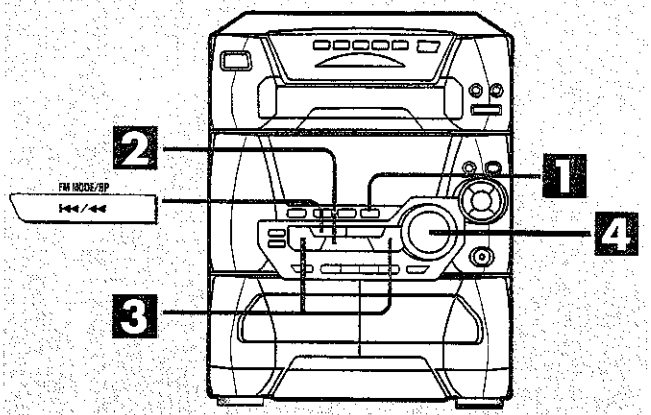


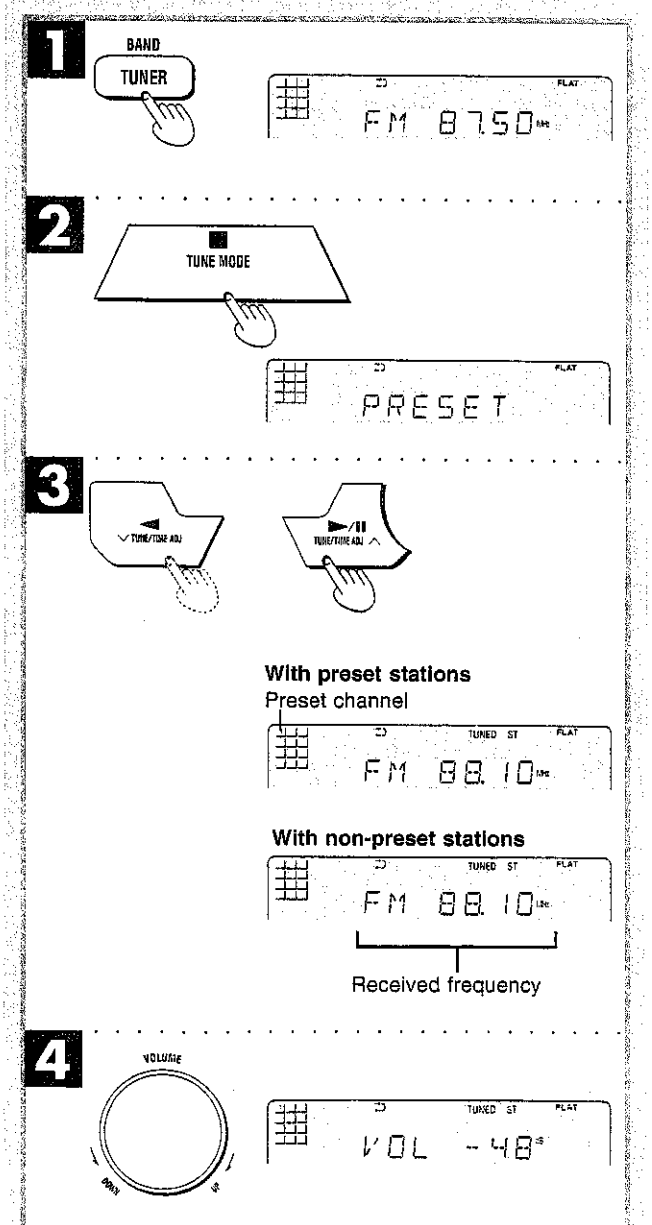
If auto presetting is not possible because radio signals are weak or for some other reason, do the following.

Presetting only your favorite stations

Preset the stations one at a time.
1. Perform step 1 above. Then, press MEMORY ("MEMO" flashes) and select a station with ∨ or ∧.
2. While "MEMO" is flashing, press MEMORY again and select a preset channel with ∨ or ∧.
3. Press MEMORY to preset the station.

Memory retention
Your preset is retained in memory for about 2 weeks while the system is unplugged.





Listening to radio broadcasts

1 Press TUNER BAND to select "FM" or "AM".
The power will come on automatically.
Every time you press the button: FM ⟷ AM.

2 Press TUNE MODE to select "PRESET" or "MANUAL".
Every time you press the button: MANUAL ⟷ PRESET.

PRESET: For preset stations
MANUAL: For non-preset stations

3 Press ∨ or ∧ to select the desired broadcast.
"ST" lights when an FM stereo broadcast is being received.
"TUNED" lights when you precisely tune in a broadcast station.

4 Adjust the volume level.

Auto tuning

Auto tuning is an easy way to tune in non-preset stations in the "MANUAL" mode.

Hold down either ∨ or ∧, and release the button when the frequency starts scrolling.
The radio will stop automatically on the first station it picks up.
- When there is outside interference, the radio sometimes stops on a certain frequency where no station is broadcasting.

To stop auto tuning
Press either ∨ or ∧ again.

If noise is excessive in the FM stereo mode

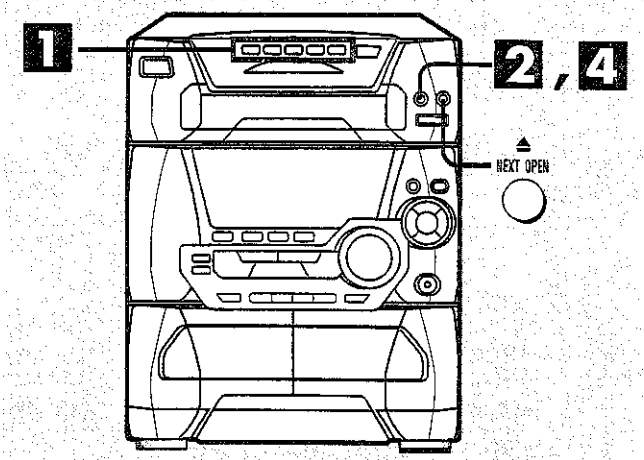
Press FM MODE/BP. "MONO" will light up.
Sound will be produced in monaural, but this also reduces noise.
Press the button again to cancel. "MONO" will go out.

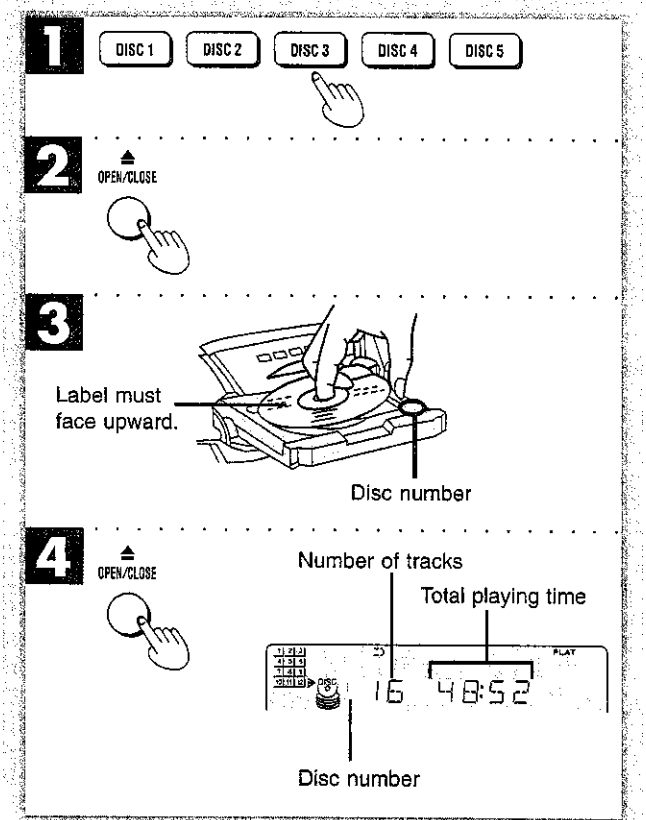
Normally, you'll want to listen in stereo, so leave "MONO" off. This way, you can listen to stereo broadcasts in stereo, and monaural broadcasts in mono.

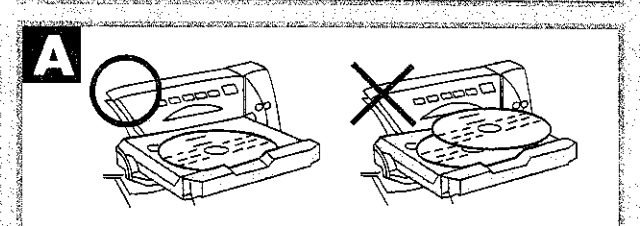
You can preset an FM station in monaural by following the steps under "Presetting only your favorite stations" on page 10. After selecting the station in step 1, select "MONO" with FM MODE/BP, then continue with steps 2 and 3.

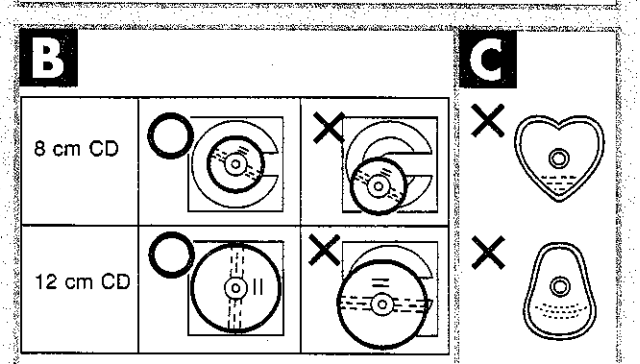
Note

- If you preset stations in memory, you can tune in a preset station by simply selecting the preset channel with the numeric buttons on the remote control.
  1. Press TUNER on the remote control.
  2. Press the numeric button(s) to select the desired preset channel.
     To select a two-digit channel:
     Press ≥10 and then the two numbers you want within 10 seconds or so.
- Sound is momentarily interrupted if you load/unload tapes while listening to an AM broadcast.









Listening to compact discs

Loading and checking CDs

Always stop the changer before loading or changing CDs. You cannot change CDs while a disc is playing.

How to load CDs

1. **Press DISC 1–DISC 5, whichever you want to open.**
   The power will come on automatically.
2. **Press ≜ OPEN/CLOSE.**
   The selected tray will open.
3. **Set CD in the tray.**
4. **Press ≜ OPEN/CLOSE.**
   The tray will close and the disc No., number of tracks and total playing time will be shown on the display.

To load several CDs consecutively or to check which trays have discs

Press ≜ NEXT OPEN.

Every time you press the button, the next tray will open. After loading all the CDs you want, press ≜ OPEN/CLOSE to close the tray.

Disc indicators (DISC 1~DISC 5)

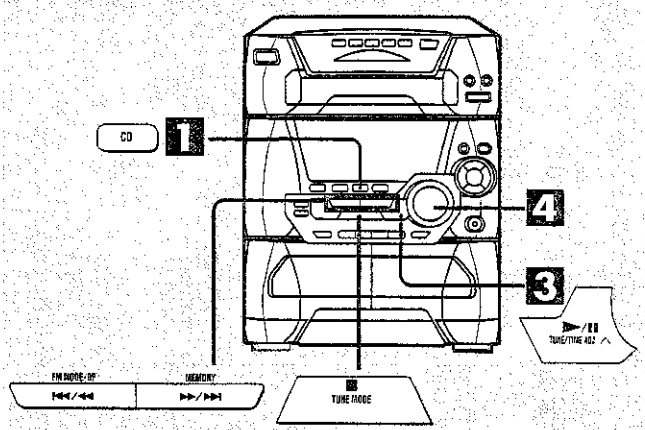
Disc indicators will act as follows whether the tray is loaded or not.

Green	When selected (When in the playing position)
Lights off	In all other cases

To prevent damage

Always observe the following points.

- Load only 1 CD per tray. **A**
- Load CDs as shown in figure **B**.
  The adapter is not needed with 8 cm CDs (singles).
- Set the system on a flat, level surface.
  Do not set it on top of magazines, inclined surfaces, etc.
- Do not move the system while trays are opening/closing, or when loaded.
  Always unload all CDs and set the system to "shipping mode" (back cover) before moving the system.
- Do not put anything except CDs in trays.
- Do not use cleaning CDs or CDs which are badly warped or cracked.
- Do not use CDs with poorly attached labels or stickers.
  Adhesive protruding from underneath stickers or left over from peeled off stickers can cause your stereo to malfunction.
- Do not use irregular shape CDs. **C**



Sequential play

1 Press CD.
The power will come on automatically.

2 Insert CDs in the trays.
(For details, see page 12.)

3 Press ►/II.
Play will start from the first track on the disc shown on the display, and will continue until the last track of the final disc is played (see below).

4 Adjust the volume level.

To stop the disc play
Press ■.

When " ⩥ " appears on the display A
It indicates there are 13 or more tracks on the disc in the playing position.

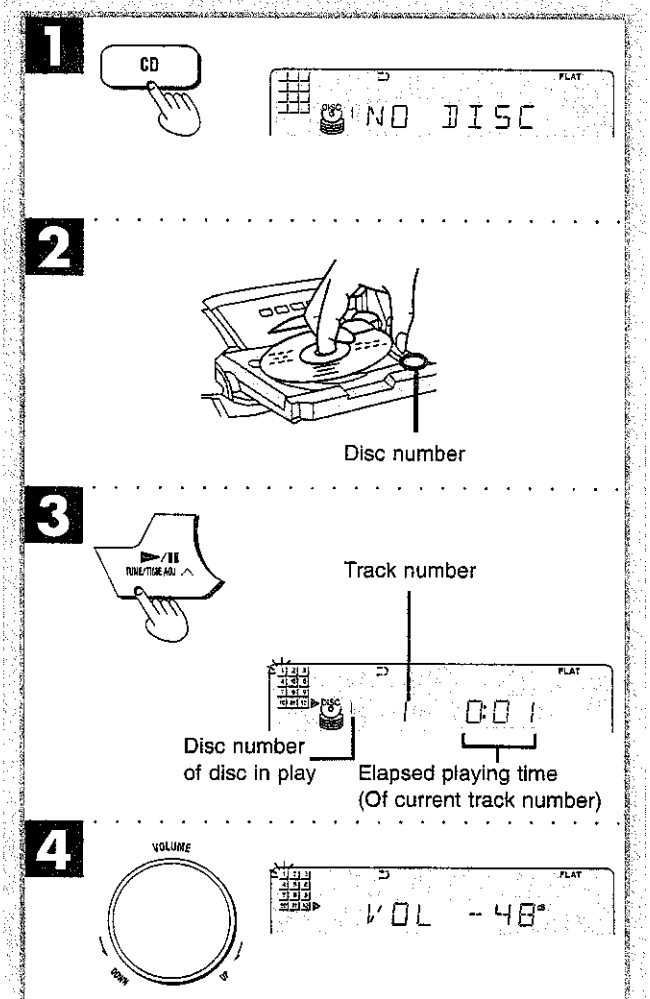
What is meant by "final disc"?
For example, if play starts from disc 4, disc 3 will be the "final disc".
Order of progression:
Disc 4→5→1→2→3

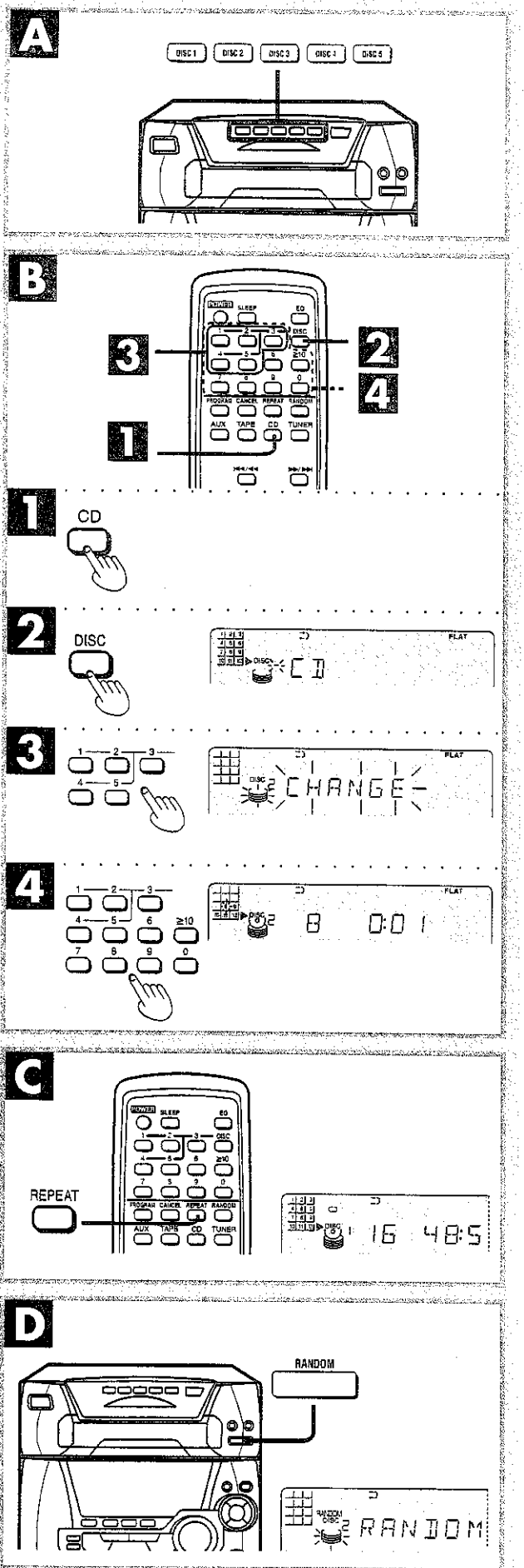
To pause	Press ►/II during playback. To resume playback, press ►/II.
To search forward/ backward (Search)	Hold down ⏮/◄◄ (backward) or ►►/⏭ (forward) during playback or pause mode.
To skip forward/ backward	Press ⏮/◄◄ (backward) or ►►/⏭ (forward) during playback or pause mode.

Note

- During random play (page 14), you cannot skip to tracks which have already been played.
- During program play (page 15) or random play, you can search forward or backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.

One-touch play
When power is OFF, playing starts automatically when you press CD.





Direct access play

To listen to a favorite CD A

Press DISC 1–DISC 5, whichever disc you want.
The selected CD will be played from the first track to the last track of the final disc (page 13).

To listen to a favorite track B

by remote control only

1 **Press CD.**

2 **Press DISC.**

3 **(within 10 seconds or so)**
Press 1–5 to select the disc you want.

4 **Press the numeric button(s) to select the desired track number.**
The CD will be played from the selected track to the last track of the final disc (page 13).

To select a two-digit track
Press ≥10 and then the two numbers you want within 10 seconds or so.

For example
Track no. 20: ≥10→2→0
Track no. 35: ≥10→3→5

Repeat play

by remote control only

Press REPEAT before or during play. C
All tracks on the loaded CD(s) are repeated.

To cancel repeat play
Press REPEAT once again.

To repeat your favorite tracks
1. Program the tracks you want (page 15).
2. Press REPEAT and make sure "↻" is displayed.
3. Press ▶/II/∧. Playback will start.

To repeat just one track
Set the 1-TRACK play mode (page 16), press REPEAT before or during playback, and make sure "↻" is displayed.

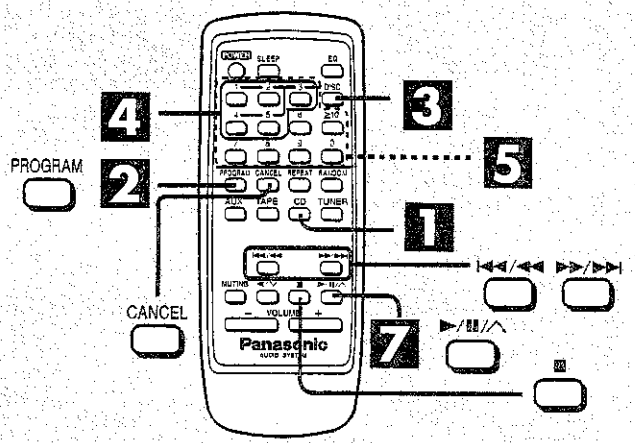
Random play

Press RANDOM. D
All tracks on the loaded CDs will be played in random order. Playback will stop automatically when all tracks have been played.

To cancel random play
Press RANDOM once again.

Note

You can use random play with your program. Only the programmed tracks will be played, but in random order.



Program play

by remote control only

You can program up to 24 tracks.

1 **Press CD.**
Ensure CD is stopped.

2 **Press PROGRAM.**

3 **Press DISC.**

4 **(within 10 seconds or so)**
Press 1–5 to select the disc you want.

5 **Press the numeric button(s) to select the desired track.**

6 **Repeat steps 3 through 5 until you have programmed all the tracks you want.**

7 **Press ▶/II/^.**
Play will start in the programmed sequence.

To cancel program play mode

Press PROGRAM in the stop mode.
Programmed contents will be saved in memory.
Pressing ■ will cancel program play, but it will also erase the entire program.

To select a two-digit track
Press ≥10 and then the two numbers you want.

For example
Track no. 20: ≥10→2→0
Track no. 35: ≥10→3→5

When "CD FULL" appears
The number of programmed tracks is limited to 24. No further tracks can be programmed.

You can do the following during program mode A

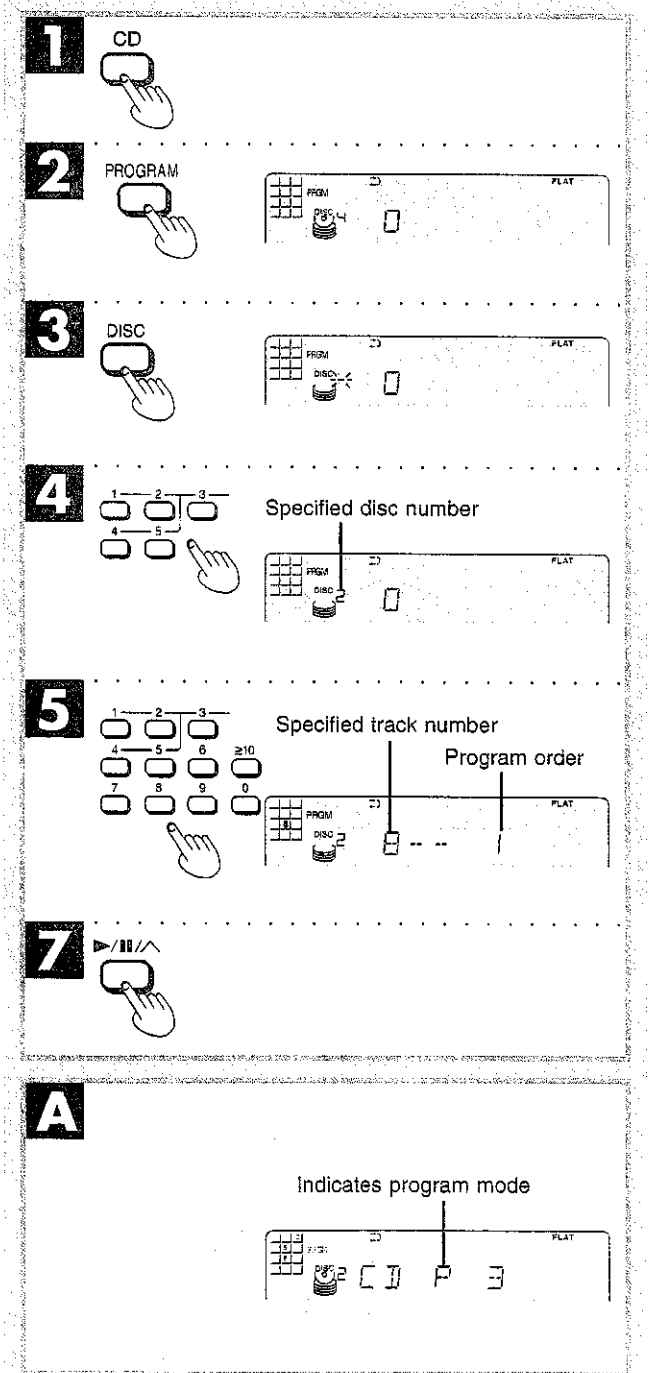
- Check program contents.
  Press |◀◀/◀◀ or ▶▶/▶▶|.
  Every time you press one of the buttons, the track and program No. are shown on the display.
- Add to the program.
  Repeat steps 3 through 5.
- Cancel entries.

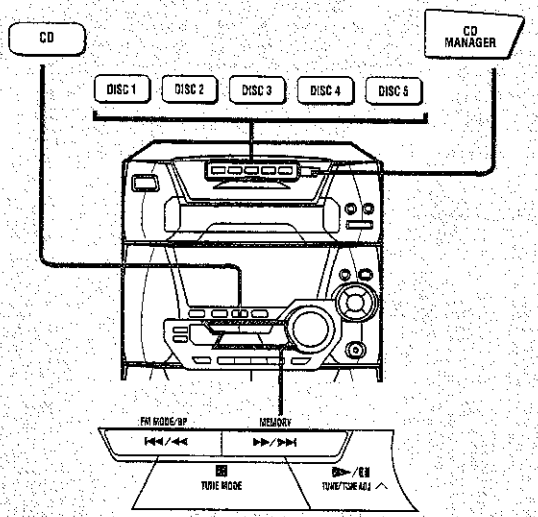
From the last programmed track	Press CANCEL.
A specified track only	Select the track with |◀◀/◀◀ or ▶▶/▶▶|, and press CANCEL within 3 seconds.
All tracks	Press ■.

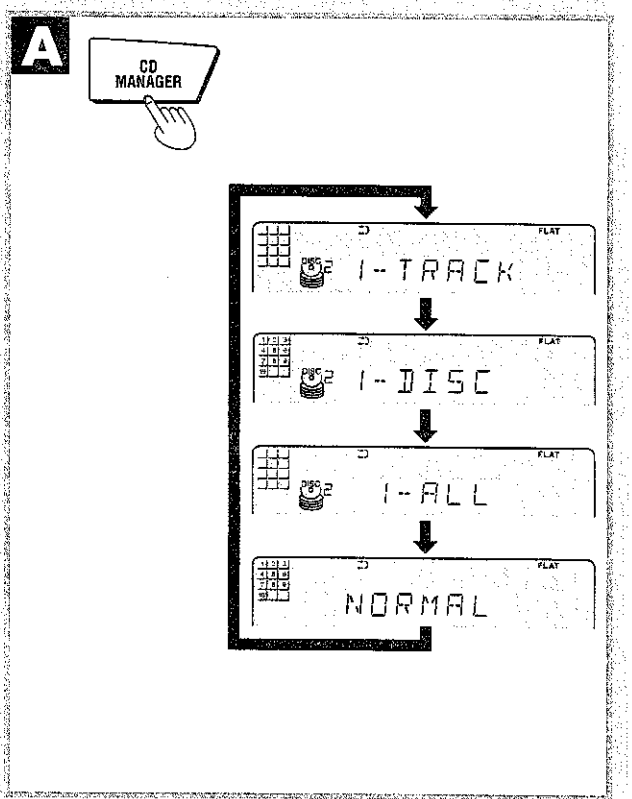
Memory retention
Your program is retained in memory for about 2 weeks while the system is unplugged.

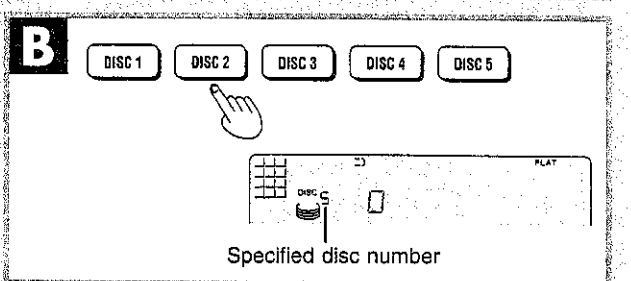
To replay your program
If you turned OFF your program with PROGRAM, you can play it again as explained below.
1. Press PROGRAM.
2. Press ▶/II/^.

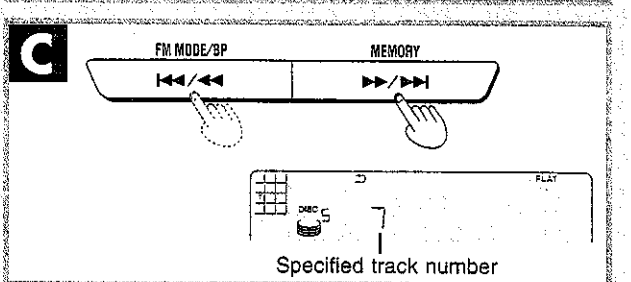
If you program a track not on your CDs
The track is initially programmed, but during program play, the player will skip that track and will continue playing from the next programmed item.











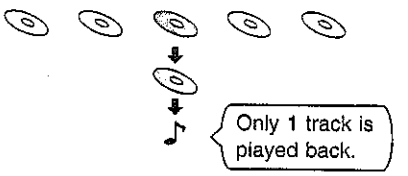
To listen to special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

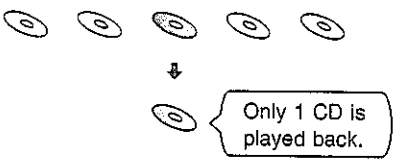
You can use this function to make recordings as well.

There are 3 CD/track selection modes.

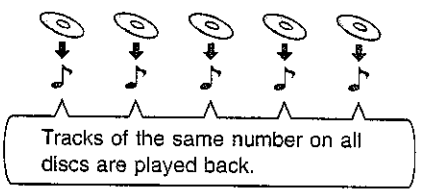
- For playing back 1 track only from all loaded CDs
  1-Track mode (1-TRACK)



- For playing back 1 CD only from all loaded CDs
  1-Disc mode (1-DISC)



- For playing back 1 track on all loaded CDs
  1-Track All-Disc mode (1-ALL)



To listen to 1 track only (1-TRACK)

1 **Press CD.**
Ensure CD is stopped.

2 **Press CD MANAGER to select "1-TRACK".** A
Every time you press the button:

1-TRACK → 1-DISC → 1-ALL
↑ NORMAL ← (OFF)

3 **Press DISC 1–DISC 5 to select the disc you want.** B

Note

The button lamp of the selected CD will not light up until playback starts.

4 **Press ⏮/◀◀ or ▶▶/⏭ to select the desired track.** C

5 **Press ▶/II.**
The selected track will start.

To listen to 1 CD only (1-DISC)

1 Press CD.
Ensure CD is stopped.

2 Press CD MANAGER to select "1-DISC".
Every time you press the button:
1-TRACK → 1-DISC → 1-ALL
↑ NORMAL ← (OFF)

3 Press DISC 1–DISC 5 to select the disc you want.
Note
The button lamp of the selected CD will not light up until playback starts.

4 Press ▶/II.
The selected CD will be played from the first track to the last.

To listen to the same numbered track on all CDs (1-ALL)

1 Press CD.
Ensure CD is stopped.

2 Press CD MANAGER to select "1-ALL".
Every time you press the button:
1-TRACK → 1-DISC → 1-ALL
↑ NORMAL ← (OFF)

3 Press either ⏮/◀◀ or ▶▶/⏭ to select the desired track.

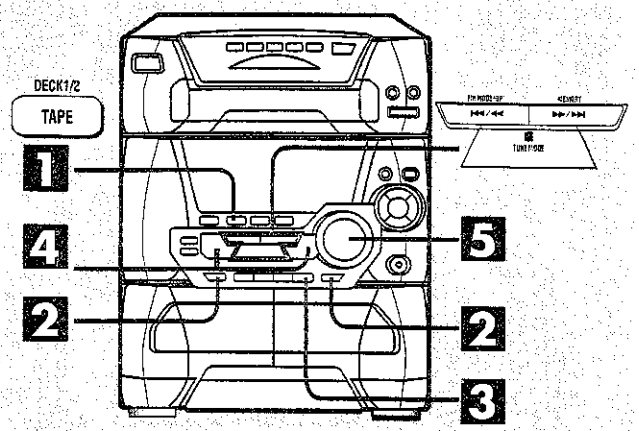
4 Press ▶/II.
The same numbered track on CDs 1 through 5 will be played in order from CD 1 to CD 5.

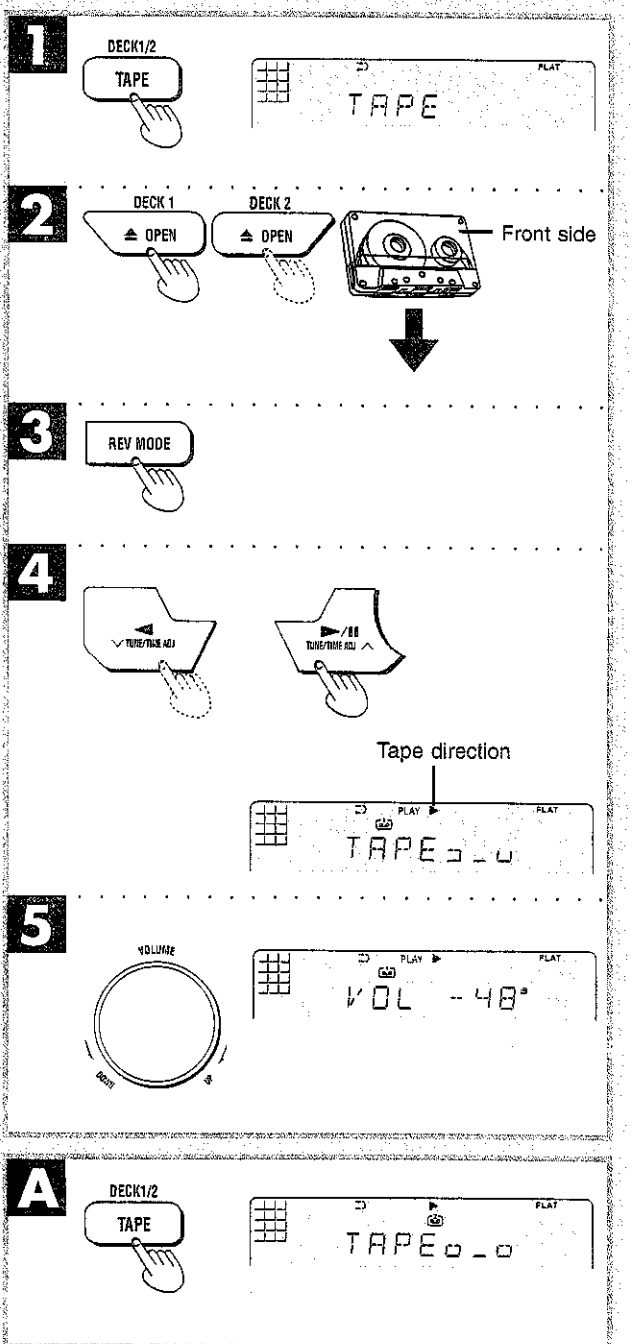
When playback ends
"NORMAL" will appear on the display for about 3 seconds, then the CD MANAGER function will turn OFF automatically.

To stop play
Press ■.

When you select the wrong CD or track
- **1-TRACK mode**
  To reselect a track on the same CD
  Press either ⏮/◀◀ or ▶▶/⏭ to select the track.
  To reselect a track on another CD **by remote control only.**
  Press DISC on the remote control and, within 10 seconds, select a CD No. between 1 and 5. Then, select the track with the numeric buttons.
- **1-DISC mode**
  Reselect a CD with DISC 1 – DISC 5.
- **1-ALL mode**
  Reselect the track with the numeric buttons on the remote control.

Note
- You can use the repeat function (page 14) and random play (page 14) at the same time. However, you can only select the repeat function in 1-TRACK mode.
- During 1-ALL mode, you cannot skip to a disc which has already finished.
- During 1-ALL mode, if the selected track is not found on a certain CD, the player automatically skips that CD and continues playing from the next CD.





Listening to tapes

Types of tapes which can be played correctly:
The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	O
HIGH POSITION/TYPE II	O
METAL POSITION/TYPE IV	O

You can use either deck 1 or deck 2 for tape playback.

1 Press TAPE DECK 1/2.
The power will come on automatically.

2 Press ≙ OPEN DECK 1 or ≙ OPEN DECK 2 and insert the tape.
Insert the tape with the exposed tape facing down.
Close the holder by hand.

3 Press REV MODE to select the reverse mode.
Every time you press the button:
⇄ → ⇉ → (⇄)

⇄ : One side is played, then playback stops automatically.
⇉ : Both sides (front side → reverse side) are played one time each, then playback stops automatically.
(⇄) : Both sides are played 8 times each, then playback stops automatically.

4 Press ◄◄ or ►► to start playback.
►►: The forward side (front side) will play.
◄◄: The reverse side will play.

5 Adjust the volume level.

To stop tape playback
Press ■.

To change the deck to be used A
Press TAPE DECK 1/2 to select the deck you want to use when you load cassettes into both decks.

To listen to 2 tapes consecutively
Load a tape into each deck and select "(⇄)". Both tapes will be played 8 times each.

Note
Playback is momentarily interrupted while playing back tapes, if you open the other deck.

One-touch play
When power is OFF, play starts automatically when you press TAPE DECK 1/2.

To fast-forward or rewind the tape

Press ⏮/◀◀ or ▶▶/⏭ in the stop mode.

Tape direction	To rewind	To fast-forward
"▶"	⏮/◀◀	▶▶/⏭
"◀"	▶▶/⏭	⏮/◀◀

To find the beginning of a program (TPS: Tape Program Sensor)

Press ⏮/◀◀ or ▶▶/⏭ during play.

Tape direction	To play the current tune from the beginning	To play the next tune from the beginning
"▶"	⏮/◀◀	▶▶/⏭
"◀"	▶▶/⏭	⏮/◀◀

Note

The TPS function searches for silent parts of about 4 seconds in length which are normally found between tunes. As a result, it may not function properly in the following cases

- With short silent parts
- When noise occurs between tunes
- With silent parts found within tunes

Before recording (Deck 2 only)

Types of tapes which can be recorded correctly

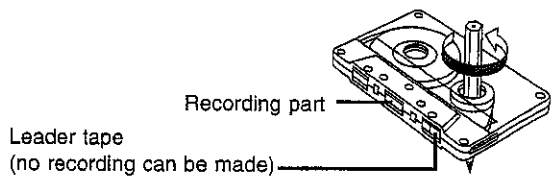
The unit automatically identifies the type of tape.

NORMAL POSITION/TYPE I	○
HIGH POSITION/TYPE II	○
METAL POSITION/TYPE IV	×

This system cannot make a recording or erasing correctly, if metal position tapes are used.

To record from the beginning of the tape

You cannot record on the leader part of the tape. Before recording, wind the tape past the leader to a point where recording can start immediately.



How volume, sound quality/field and V. BASS affect recording

The tape you are recording is not affected whatever by changes in volume, sound quality/field or V. BASS.

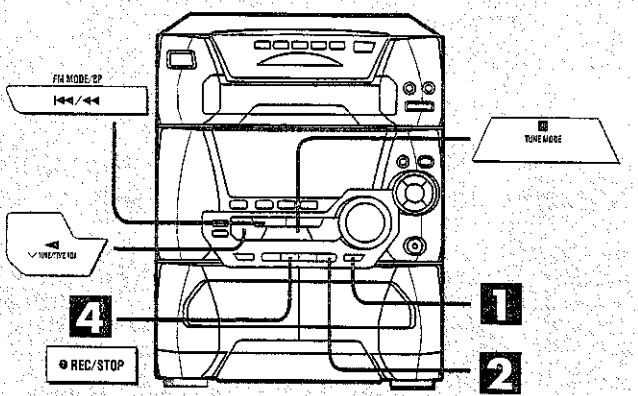
- In recording, sound quality/field are set automatically to "FLAT".
- You can change volume and V. BASS effect for the playback sound.

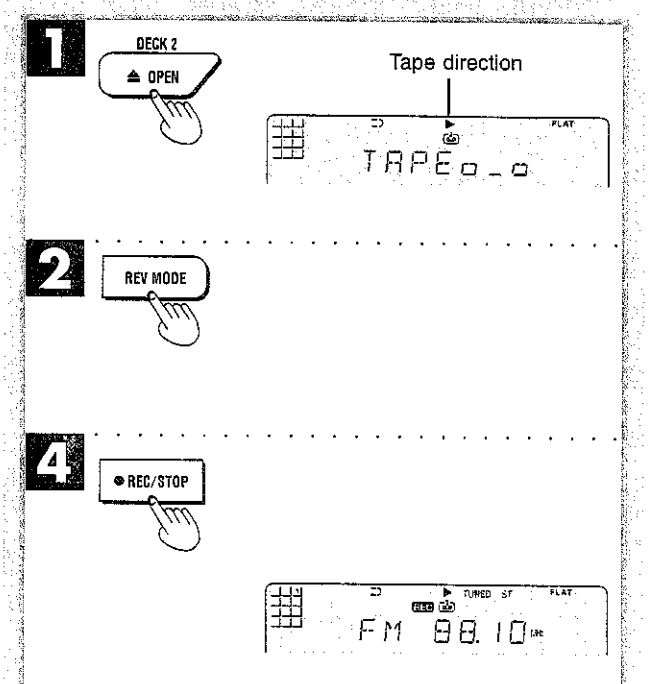
To erase a recorded sound

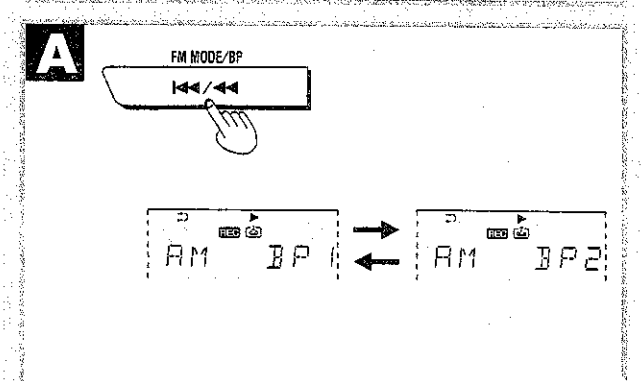
1. Press TAPE DECK 1/2.
2. Insert the recorded tape into Deck 2.
3. Press REV MODE to select reverse mode.
4. Press ●REC/STOP.

Note

- You cannot open Deck 1 while recording.
- You cannot fast-forward or rewind one deck while recording with the other.







Recording from radio broadcasts

1 Press ▲ OPEN DECK 2 and insert the tape.
Close the holder by hand.
Tape direction is automatically set to "▶".

2 Press REV MODE to select the reverse mode.
Every time you press the button:

⇄ → ⇉ → (⇄)

⇄ : One side is recorded, then recording stops automatically.

⇉ , (⇄) : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 Select a radio station. Perform steps 1 through 3 on page 11.

4 Press ●REC/STOP to start recording.
If you selected " (⇄) " in step 2, the direction will automatically change to " ⇄ " when recording starts.

To stop recording
Press ●REC/STOP again.
Recording can also be stopped by pressing ■.

To start recording on the reverse side
Load a tape and change the tape direction as following.
1. Press TAPE DECK 1/2 and select tape Deck 2.
2. Press ◀◀ and immediately thereafter ■. The tape direction will be shown as "◀".

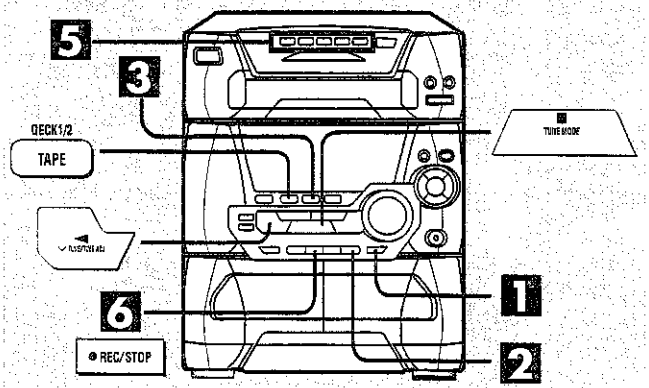
To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.

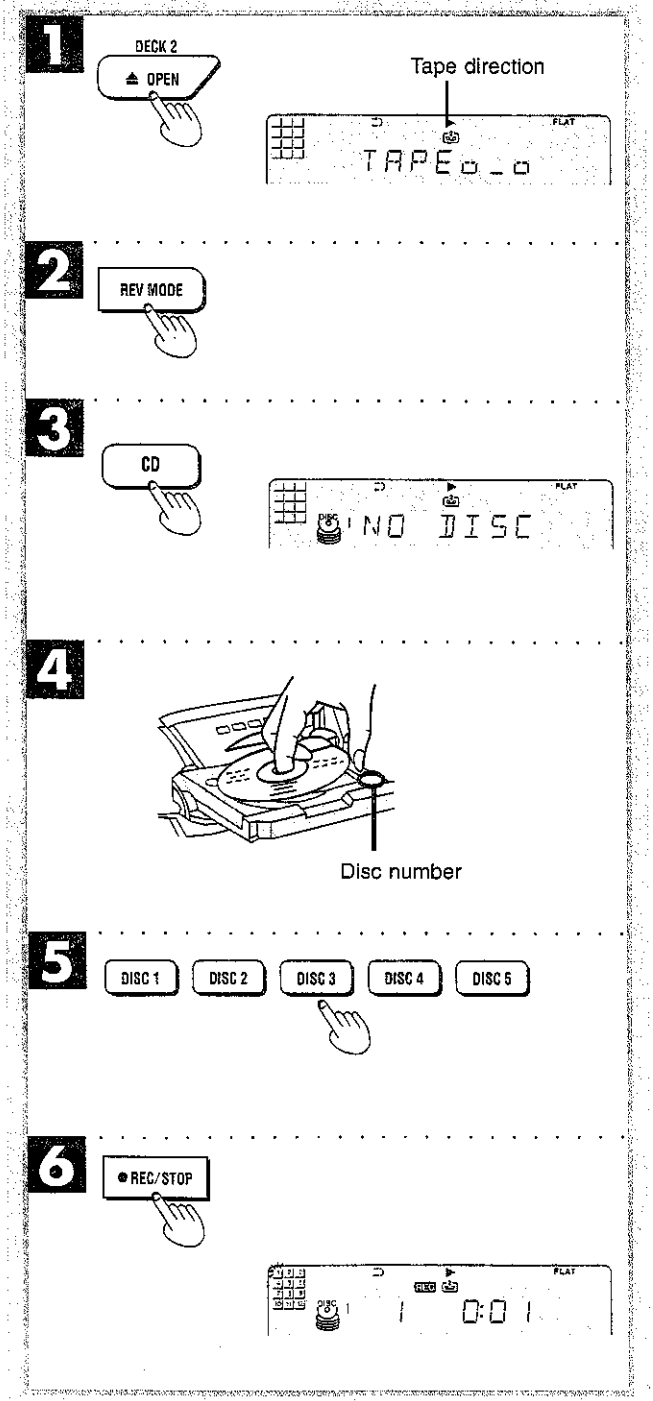
To cut an unnecessary part while recording
1. Press ●REC/STOP during the unnecessary part. The cassette deck will go into the stop mode.
2. Press ●REC/STOP to resume recording again. Recording will continue in the same direction as before.

Note
When recording an AM broadcast, sound is momentarily interrupted when you start and stop the recording.

To reduce noise while recording an AM broadcast (Beat proof function) A

Press FM MODE/BP while recording.
Each time you press the button, BP 1 and BP 2 will be displayed alternately.
Select the position where there is less noise.





Recording from compact discs

1 Press ▲ OPEN DECK 2 and insert the tape.
Close the holder by hand.
Tape direction is automatically set to "►".

2 Press REV MODE to select the reverse mode.
Every time you press the button:

⇄ → ⇉ → (⇄)

⇄ : One side is recorded, then recording stops automatically.
⇉ , (⇄) : Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 Press CD.

4 Load CDs into each of the trays.
(See page 12).

5 Press DISC 1 – DISC 5 to select the disc you want.
Pressing ■ will stop playback.

6 Press ●REC/STOP to start recording.
- If you selected " (⇄) " in step 2, the direction will automatically change to " ⇉ " when recording starts.
- The recording will proceed from the first track on the selected CD and will continue on through the last track of the final disc (page 13).
- The tape deck stops automatically when the CD is finished.

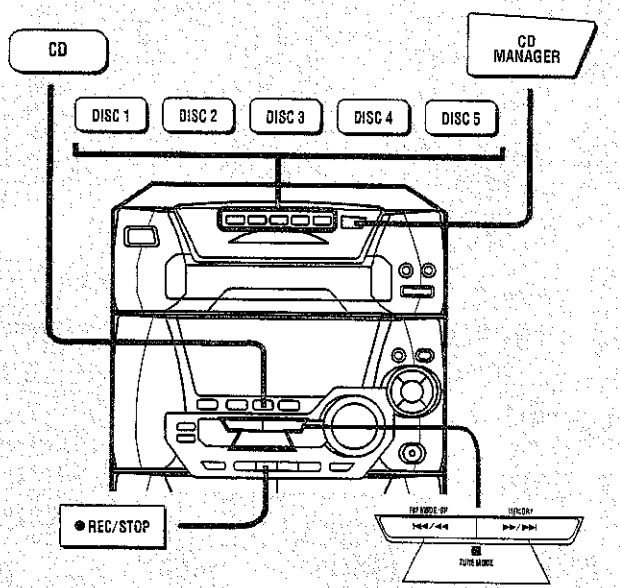
To stop recording
- To add a 4 second silent interval before stopping
  Press ■. The CD will stop automatically too.
- To stop recording without a silent interval
  Press ●REC/STOP. The CD will stop automatically too.

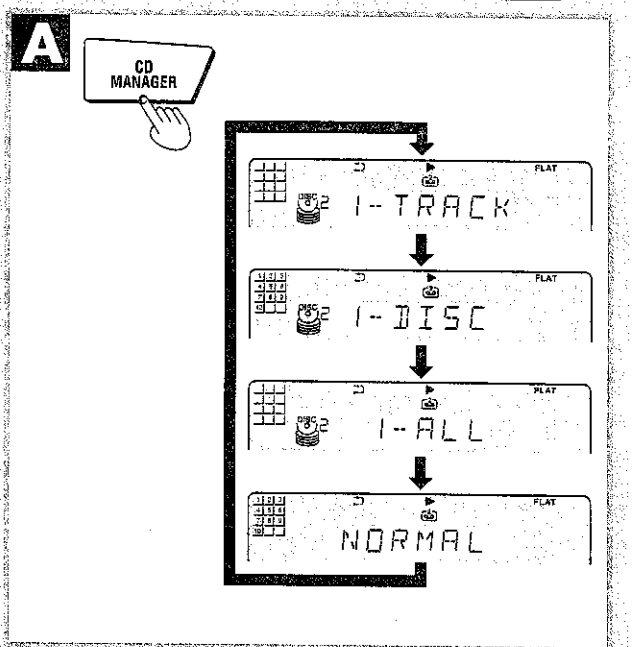
To start recording on the reverse side
Load a tape and change the tape direction as following.
1. Press TAPE DECK 1/2 and select tape Deck 2.
2. Press ◄ and immediately thereafter ■. The tape direction will be shown as "◄".

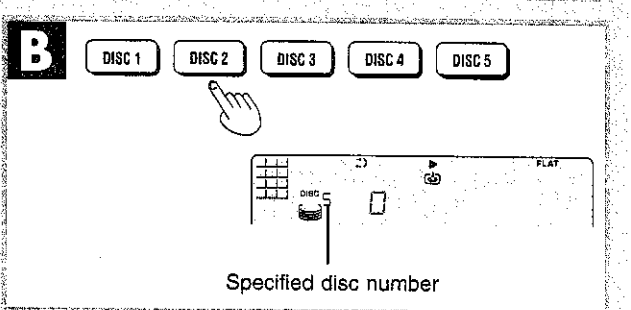
To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.

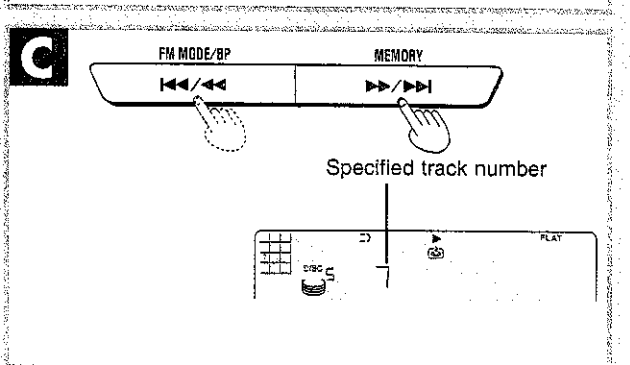
To record programmed tracks

1. After step 4, program the track you want (perform steps 2 – 6 on page 15.)
2. Press ●REC/STOP to start recording.





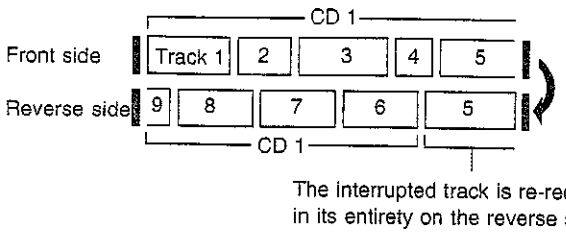




To record special CDs and tracks (CD Manager function)

This function makes it easier for you to select special CDs and tracks from amongst those loaded in the player.

- While recording, if a track is cut off in the middle at the end of the front side, it is re-recorded from the beginning, on the reverse side.



The interrupted track is re-recorded in its entirety on the reverse side.

- At the end of the reverse side, recording stops and the current track will be interrupted.

Before recording

Prepare the tape you want to use. Perform steps 1 and 2 on page 21.

To record 1 track only (1-TRACK)

1 **Press CD.**

2 **Press CD MANAGER to select "1-TRACK".** A
Every time you press the button:

1-TRACK → 1-DISC → 1-ALL
↑ NORMAL ← (OFF)

3 **Press DISC 1–DISC 5 to select the disc you want.** B

Note
The button lamp of the selected CD will not light up until playback starts.

4 **Press ⏮/◀◀ or ▶▶/⏭ to select the desired track.** C

5 **Press ●REC/STOP.**
The selected track will be recorded.

To record 1 CD only (1-DISC)

1 Press CD.

2 Press CD MANAGER to select "1-DISC". A

Every time you press the button:

1-TRACK → 1-DISC → 1-ALL
↑ NORMAL ← (OFF)

3 Press DISC 1–DISC 5 to select the disc you want.

Note

The button lamp of the selected CD will not light up until playback starts.

4 Press ●REC/STOP.

The selected CD will be recorded.

To record the same numbered track on all CDs (1-ALL)

1 Press CD.

2 Press CD MANAGER to select "1-ALL". A

Every time you press the button:

1-TRACK → 1-DISC → 1-ALL
↑ NORMAL ← (OFF)

3 Press ⏮/◀◀ or ▶▶/⏭ to select the desired track.

4 Press ●REC/STOP.

The same numbered track on CDs 1 through 5 will be recorded in order from CD 1 to CD 5.

When recording ends

"NORMAL" will appear on the display for about 3 seconds, then the CD MANAGER function will turn OFF automatically.

To stop recording

- To add a 4 second silent interval before stopping
  Press ■. The CD will automatically stop too.
- To stop recording without a silent interval
  Press ●REC/STOP. The CD will stop automatically too.

When you select the wrong CD or track

The same reselection procedure is used with all three modes. Perform this procedure before recording starts.

To reselect a CD

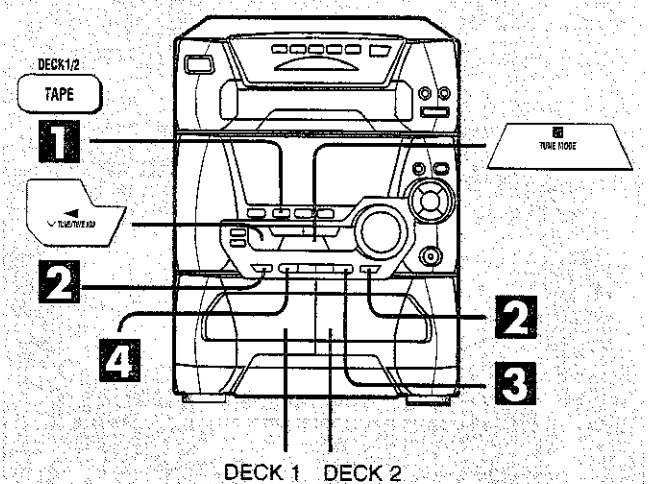
Reselect the CD with DISC 1 ~ DISC 5.

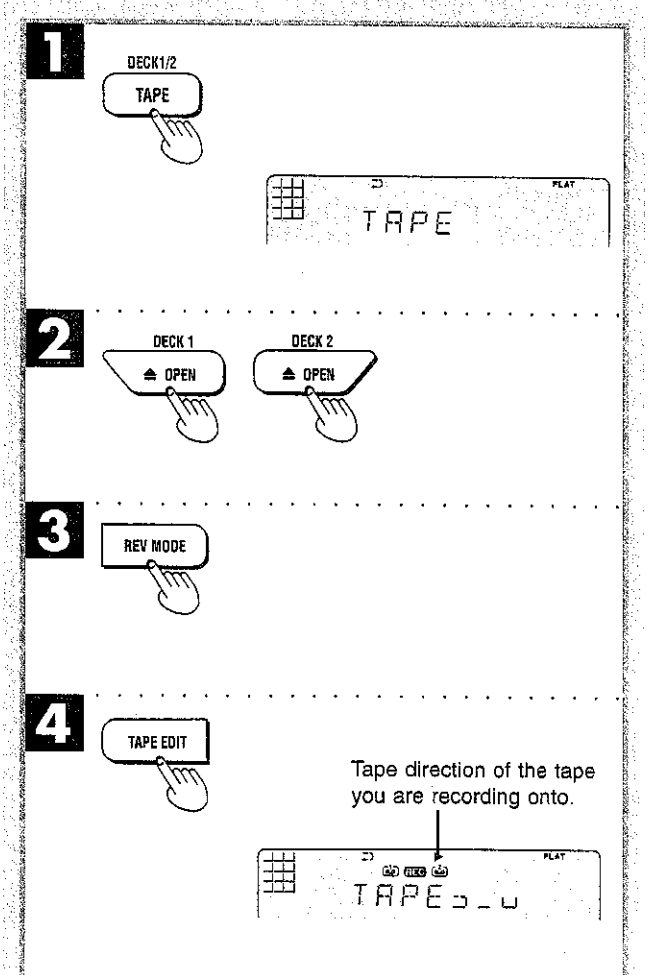
To reselect a track

Reselect the track with ⏮/◀◀ and ▶▶/⏭.

For your reference

During 1-ALL mode, if the selected track is not found on a certain CD, the player automatically skips that CD and continues recording from the next CD.





Tape-to-tape recording

The recording level will be recorded as they are on the tape being played back.

1 Press TAPE DECK 1/2.

2 Press ≙ OPEN on both decks and insert the tapes.
For playback: Into Deck 1
For recording: Into Deck 2
Close the holders by hand.
Tape direction is automatically set to "►".

3 Press REV MODE to select the reverse mode.
Every time you press the button:

⇄ → ⇉ → ⇆

⇄ : One side is recorded, then recording stops automatically.
⇉, ⇆ : Both sides (front side → reverse side) are recorded, then recording stops automatically.

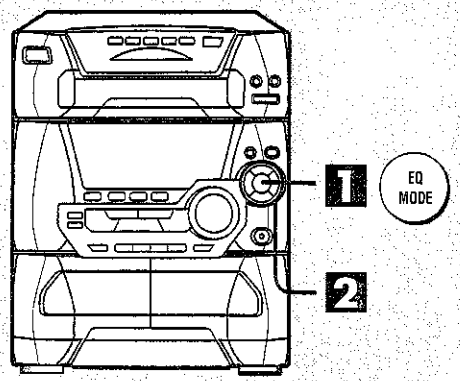
4 Press TAPE EDIT to start recording.
• If you selected "⇆" in step 3, the direction will automatically change to "⇉" when recording starts.

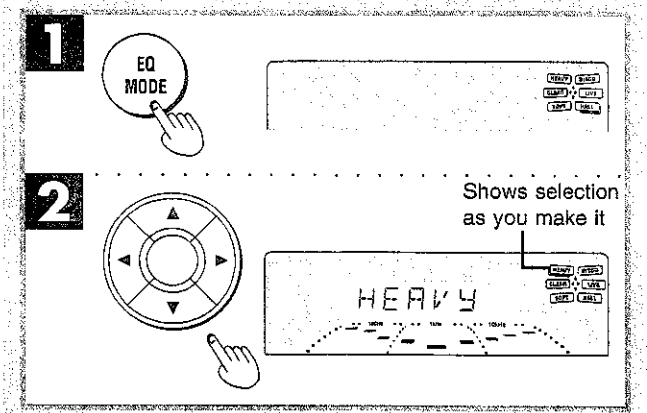
To stop recording
Press ■.
Both decks will stop.

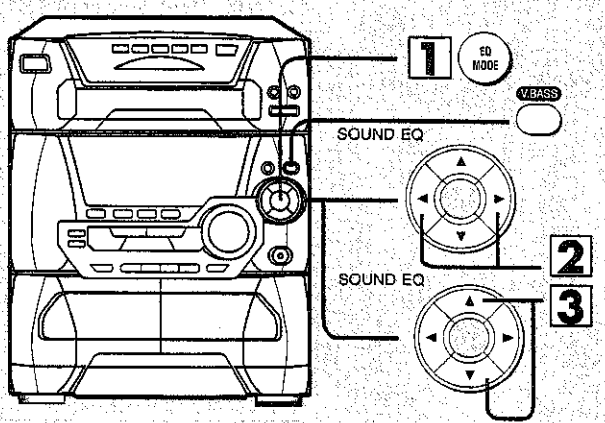
To start recording on the reverse side
Load a tape and change the tape direction as following.
1. Press TAPE DECK 1/2 and select tape Deck 2.
2. Press ◄ and immediately thereafter ■. The tape direction will be shown as "◄".

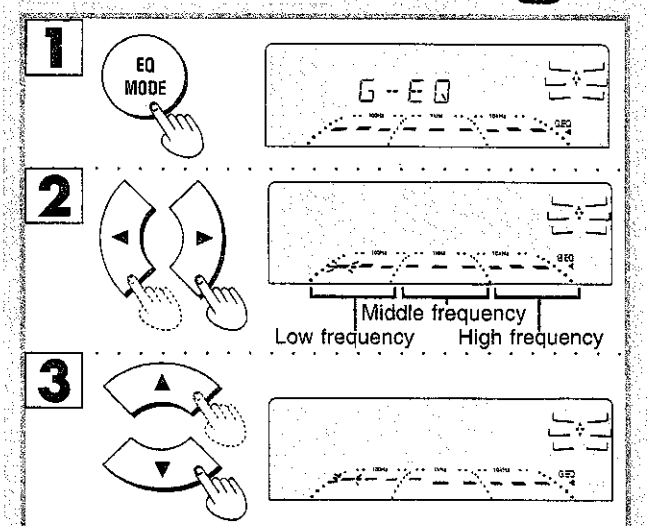
To record from a specific point on a tape
Before recording, advance the tape to the point from where you want to start recording.

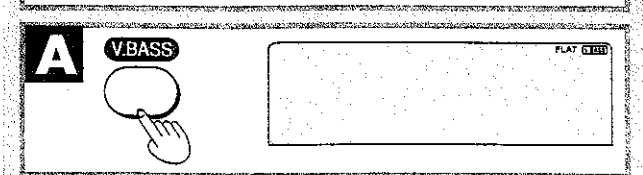
Sound quality, field, etc.









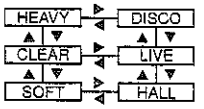


Selecting sound quality and field

Base your selection on the type of music and how you want to listen to it.

1 Press EQ MODE to select preset equalizer mode.
Every time you press the button:
FLAT → (preset equalizer) → G.EQ

2 Select sound quality and field with ◀, ▶, ▼ and ▲.
Rotation changes with each button as shown below.



HEAVY: Use to add "punch" to rock and other music.
CLEAR: Use to clarify the treble range of jazz, etc.
SOFT: Use to listen to background music, etc.
DISCO: Use to reproduce a long reverberating sound like that heard in discotheques.
LIVE: Use primarily for vocal pieces to add gloss to the vocals.
HALL: Use to impart a deep bass and spread which will make you feel as if you were in a large concert hall.

To cancel the mode
Press EQ MODE to select "FLAT".

Note
In recording, the sound quality/field will be set automatically to "FLAT".

Adjusting sound quality

1 Press EQ MODE to select "G.EQ".
Every time you press the button:
FLAT → (preset equalizer) → G.EQ

2 Press ◀ or ▶ to select the desired sound range.
The selected frequency indicator flashes.

3 Press ▼ or ▲ to adjust the frequency level.

4 Repeat steps 2 through 3 until you have adjusted the desired frequency.

To cancel the mode
Press EQ MODE to select "FLAT".

Note
In recording, the sound quality will be set automatically to "FLAT".

Adding bass

Press V.BASS.
Press the button again to cancel.
" V.BASS " goes out.

Note
You cannot record V.BASS effect, but you can use it for playback sound.

Timers

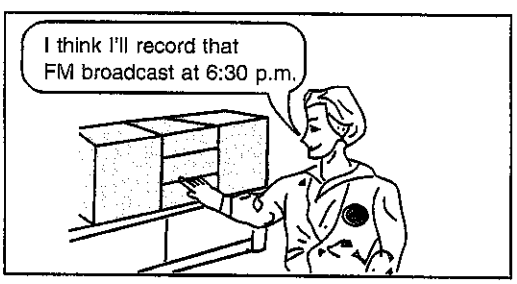
This system has 3 timers: Play Timer, Record Timer, Sleep Timer.

Play Timer (⏲PLAY)

Select this timer when you want to use the timer as an alarm clock. You can wake up listening to music (CD, tuner, tape or aux) at a desired volume level and time.

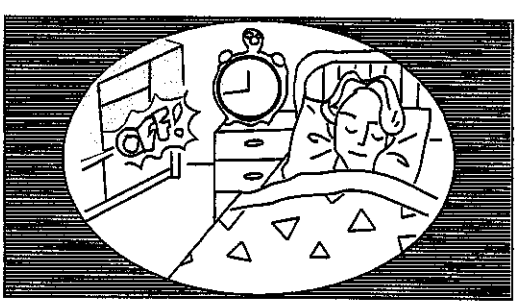
Record Timer (⏲REC)

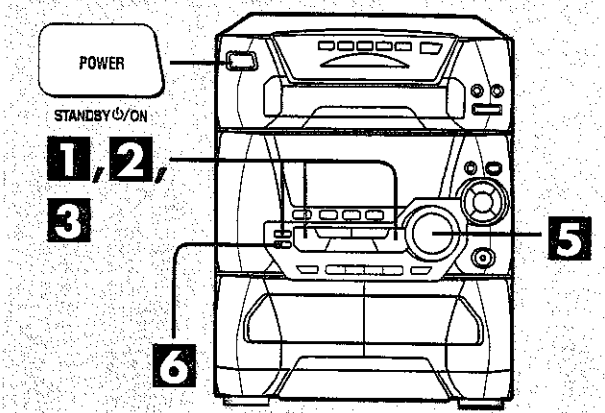
Select this timer when you want to use the timer to record a midnight program or while you are out.

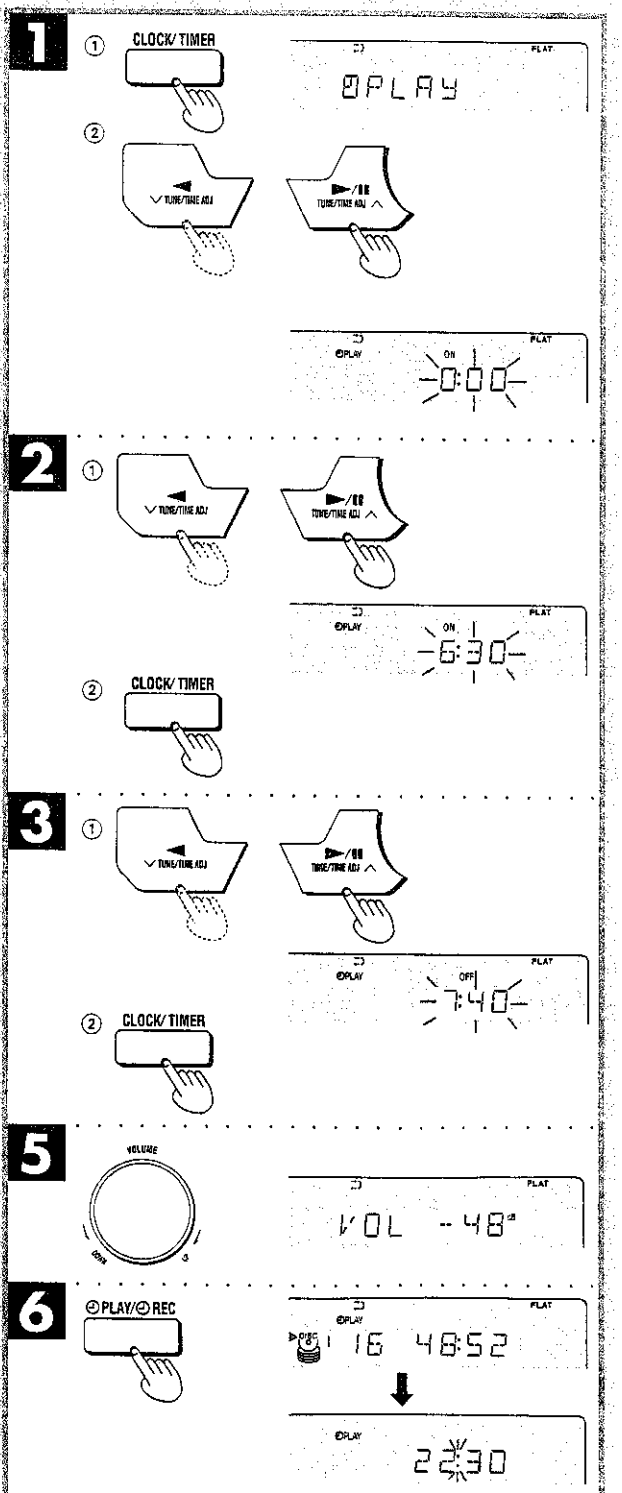


Sleep Timer (SLEEP)

This timer turns power to your system OFF at the set time (Max. 2 hours, settable at 30-minute intervals). It lets you fall asleep listening to music.







Using the play timer

Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

The figure shows how to set the play timer to play a CD from 6:30 a.m. to 7:40 a.m.

1 **① Press CLOCK/TIMER to select "⏲PLAY".**
Every time you press the button:

CLOCK → ⏲PLAY → ⏲REC
↑ └ Previous display ←┘

② (Within 10 seconds or so)
Press ∨ or ∧ to set the start time display flashing.

2 **"ON" time setting**

① Press ∨ or ∧ when the start time display is flashing to set the start time.
② Press CLOCK/TIMER.
Finish time flashes.

3 **"OFF" time setting**

① Press ∨ or ∧ to set the finish time.
② Press CLOCK/TIMER.
Display returns to original mode.

4 **Source selection**

Select the desired source and then prepare for playing.

To play CD(s)
Press CD and insert CD(s).
If more than 1 CD is loaded
Press DISC 1 – DISC 5 to select the CD you want to hear first, and press ■.

Note
Disc selection does not become part of the timer memory.

To play tape(s)
Press TAPE DECK 1/2 and insert tape(s).
If tapes are loaded in both decks, playback will start from Deck 2.

To play the radio
Press TUNER BAND and tune in the desired station.

To play a unit connected to the "AUX" terminals
Press AUX.

5 **Play volume setting**

Set the playback volume.

6 **Press ⏲PLAY/⏲REC to select "⏲PLAY".**
Every time you press the button:

⏲PLAY ⟶ ⏲REC
↑ └ (OFF) ←┘

Power will shut OFF automatically in a few seconds.

The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.

To switch the timer OFF
Press ⏲PLAY/⏲REC and check "⏲PLAY" goes out.

If you set the timer wrongly
Press ⏲PLAY/⏲REC so that "⏲PLAY" goes out. Then, repeat the procedure from step **1**.

To check settings
Press CLOCK/TIMER to select "⏲PLAY".
Two seconds later, the display will change in the following order.
① Play start time
② Play over time
③ Play source and playback volume

You can check settings even when the system is OFF.

To enjoy the desired source after the timer setting is completed
The volume level and music source are stored in the timer memory and the timer will start in these preset conditions. However, the Disc number, reverse mode and tape direction do not get stored in the timer memory.

1. After step **6**, turn on the power and start playing the desired source.

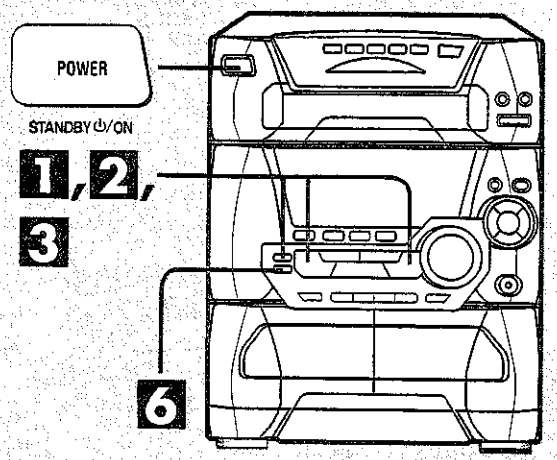
2. (After playing the desired source)
   When you select CD as the timer source
   Confirm that the CD(s) is(are) loaded.
   - If more than 1 CD is loaded
     Reset the Disc number if it has been changed, and press ■.

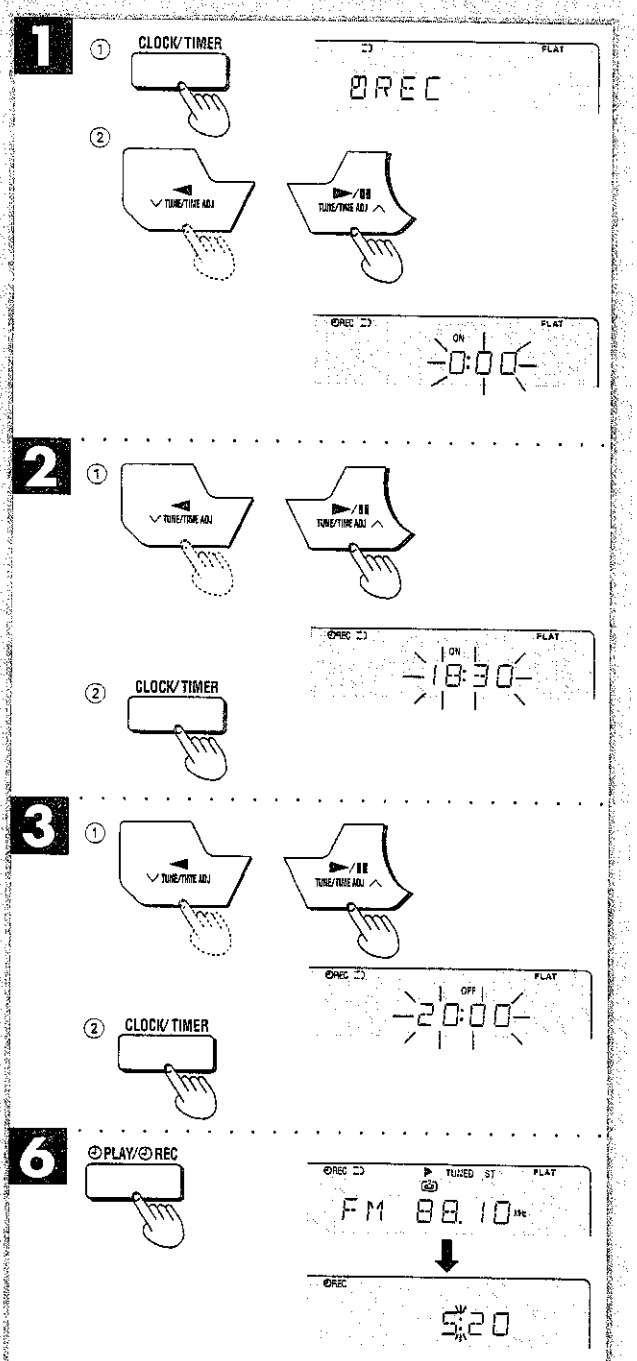
   When you select tape as the timer source
   Confirm that the tape(s) is(are) loaded.
   Reset the reverse mode and tape direction if you have changed any of them. (If tapes are loaded in both decks, check Deck 2 tape direction.)

   Press POWER to put the unit on standby.

Turning the timer ON/OFF
As long as "⏲PLAY" is displayed, the play timer will come ON everyday as set.
You can turn the timer ON/OFF by pressing ⏲PLAY/⏲REC while power is OFF.
Remember that when "⏲PLAY" is displayed, the timer is ON. When not displayed, the timer is OFF.

Note
- If the power is on, the timer will not function. The system must be in the standby mode.
- If you switch the power to the standby mode while the play timer is functioning, the OFF time setting will not be activated.
- If AUX is selected as the source, when the timer comes ON, the system will turn ON and will engage "AUX" as the source. If you want playback from the connected component to start, set the component's timer to the same time. (See the instruction manual that came with the component.)





Using the record timer

Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

Set the timer at least 2 minutes before you want to start recording.

The figure shows how to set the record timer for recording FM broadcasts from 18:30 to 20:00.

1 ① **Press CLOCK/TIMER to select "⏲REC".**
Every time you press the button:

CLOCK → ⏲PLAY → ⏲REC
↑ Previous display ←

② **(Within 10 seconds or so)**
Press ∨ or ∧ to set the start time display flashing.

2 **"ON" time setting**

① **Press ∨ or ∧ when the start time display is flashing to set the start time.**
② **Press CLOCK/TIMER.**
Finish time flashes.

3 **"OFF" time setting**

① **Press ∨ or ∧ to set the finish time.**
② **Press CLOCK/TIMER.**
Display returns to original mode.

4 **Source selection**

Select the desired source and then prepare for recording.

To record from the radio
Press TUNER BAND to select "FM" or "AM" and tune in the desired station.
To record from a unit connected to the "AUX" terminals
Press AUX.

5 **Prepare for recording.**
1. Insert a tape into Deck 2 with the side on which the recording will start facing you.
2. Select the reverse mode.

Note
Reverse mode does not become part of the timer memory.

6 **Press ⏲PLAY/⏲REC to select "⏲REC".**
Every time you press the button:

⏲PLAY → ⏲REC
↑ (OFF) ←

Power will shut OFF automatically in a few seconds.

About 30 seconds before the set time, recording will start with all sound muted automatically.

To switch the timer OFF
Press ⏲PLAY/⏲REC and check "⏲REC" goes out.

If you set the timer wrongly
Press ⏲PLAY/⏲REC so that "⏲REC" goes out. Then, repeat the procedure from step 5 .

To check settings
Press CLOCK/TIMER to select "⏲REC".
Two seconds later, the display will change in the following order.
① Recording start time
② Recording over time
③ Recording source

You can check settings even when the system is OFF.

To enjoy the desired source after the timer setting is completed
The music source is stored in the timer memory and the timer will start in this preset condition. However, the reverse mode and tape direction do not get stored in the timer memory.
1. After step 6 , turn on the power and start playing the desired source.

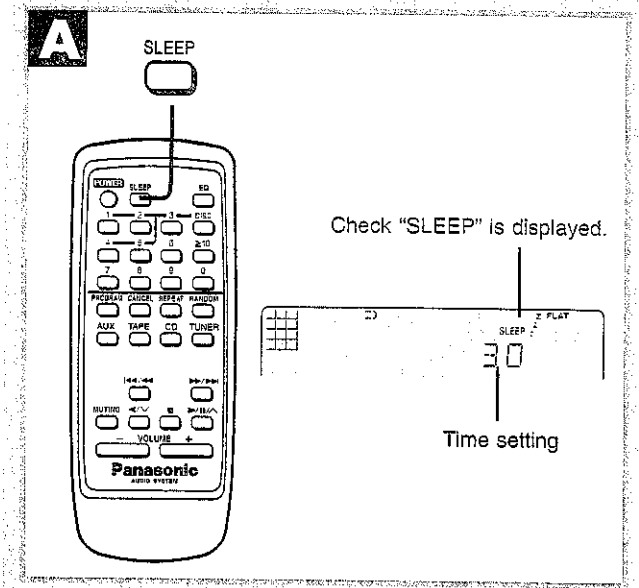
2. (After playing the desired source)
   Confirm that a tape is inserted into Deck 2.
   Reset the reverse mode and tape direction if you have changed any of them.

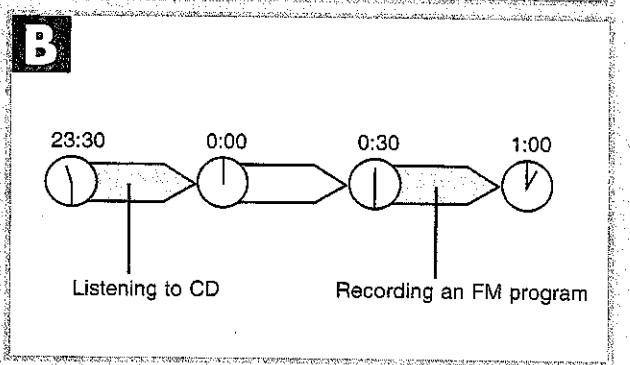
   Press POWER to put the unit on standby.

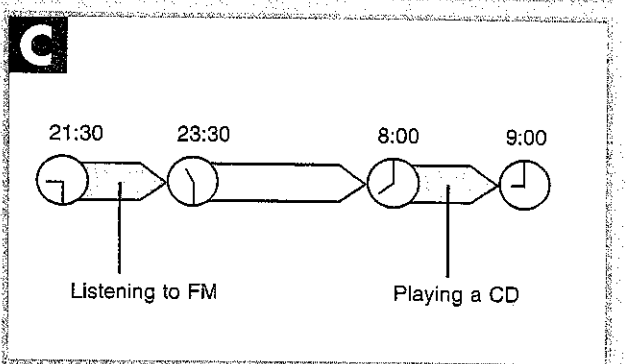
Turning the timer ON/OFF
As long as "⏲REC" is displayed, the record timer will come ON everyday as set.
You can turn the timer ON/OFF by pressing ⏲PLAY/⏲REC while power is OFF.
Remember that when "⏲REC" is displayed, the timer is ON. When not displayed, the timer is OFF.

Note

- If the power is ON, the timer will not function. The system must be in the standby mode.
- If you switch the power to the standby mode while the record timer is functioning, the OFF time setting will not be activated.
- If AUX is selected as the source, when the timer comes ON, the system will turn ON, will engage "AUX" as the source and will start recording. If you want to record from the connected component, set the component's timer to the same time. (See the instruction manual that came with the component.)







Using the sleep timer

by remote control only

Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

The figure shows how to set the system to standby mode after 30 minutes.

While enjoying the desired source:
Press SLEEP to select the desired time. A

Every time you press the button:

→ 30 → 60 → 90 → 120 → OFF

The system is turned off after the set time has elapsed.

To cancel the sleep timer
Press SLEEP to select "OFF".

To confirm the remaining time
(only while power is ON)
Press SLEEP.

To change the time remaining during operation
Press SLEEP to show the remaining time then press SLEEP to select the desired time.

Note
The sleep timer turns OFF automatically the moment you attempt to record a CD using CD Manager function.

To use two timers together

The sleep timer always has priority.
Be sure not to overlap timer settings.

Record timer and sleep timer B
To go to sleep listening to a compact disc, and then to make a timer recording from a radio broadcast.

① Program the record timer.
Follow steps 1–6 on page 28.
② Switch on the power.
③ Start your CD and set the volume.
④ Set the sleep timer (see above).

Be sure to set the sleep timer to go off before the timer recording begins.

Play timer and sleep timer C
To go to sleep listening to an FM broadcast, and wake up the next morning listening to a compact disc.

① Program a CD for play timer.
Follow steps 1–6 on page 27.
② Switch on the power.
③ Tune in the station and set the volume.
④ Set the sleep timer (see above).

For your reference
The play timer cannot be used in combination with the record timer.

Convenient functions

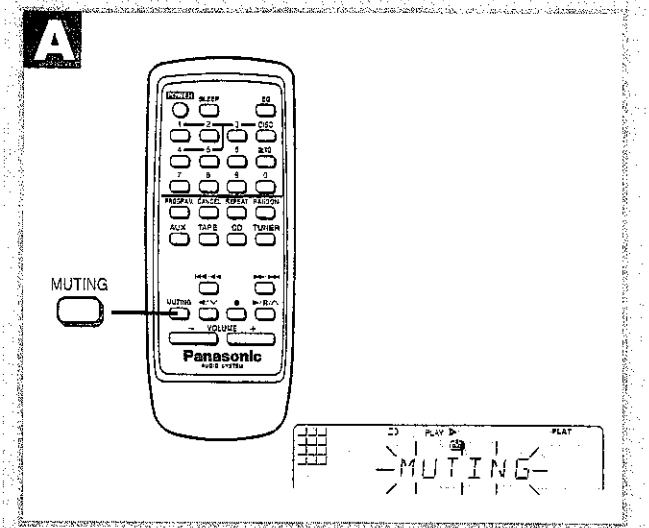
To mute the volume A

by remote control only

This feature is convenient when you have a telephone call, etc.

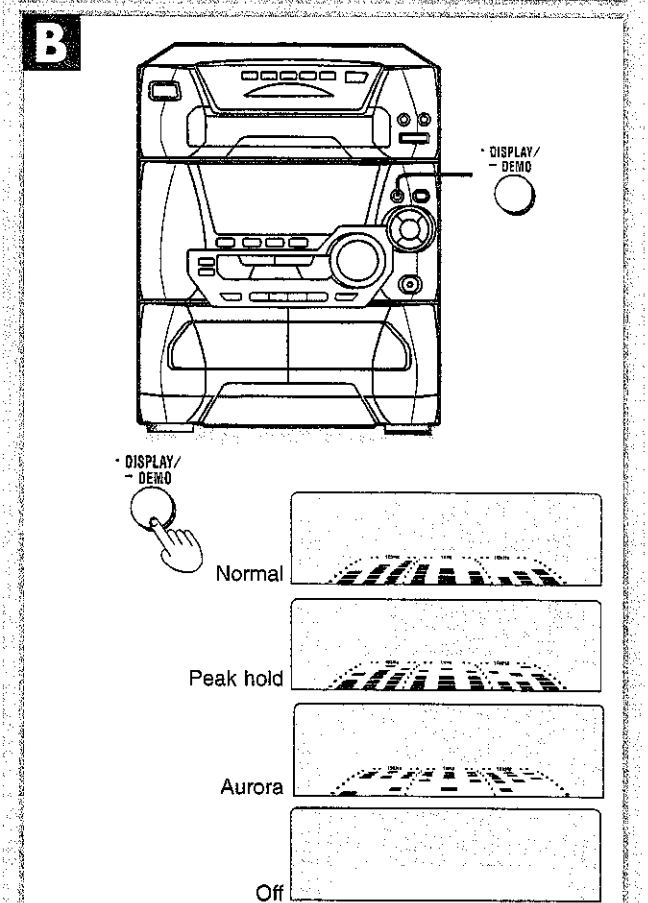
Press MUTING.
Press the button again to cancel.
"MUTING" goes out.
Muting can also be cancelled by lowering the volume all the way (--dB).

When the system is turned off, the muting operation will be automatically cancelled.



Switching displays B

Press -DISPLAY/–DEMO.
Every time you press the button, the spectrum analyzer will change as shown on the left.



Using an external unit C

Listening to an external source

(See page 7 for external unit connection.)

1. Press AUX.
   The power will come on automatically.
2. Start playback from the external source. (For details, refer to the owner's manual of the equipment.)

Recording from an external source

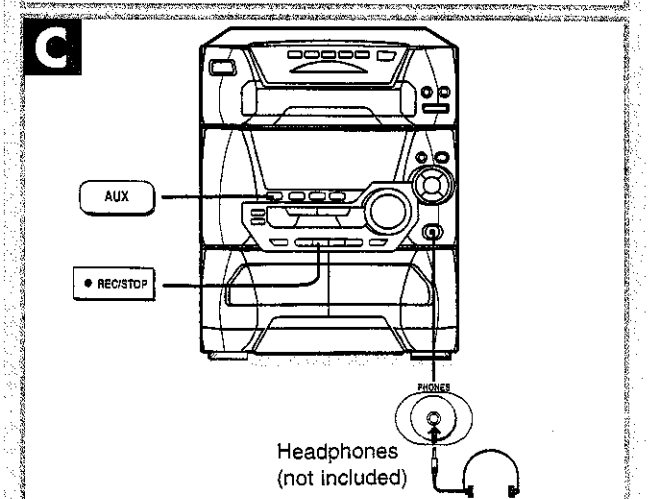
1. Follow steps 1–2 on page 20.
2. Press AUX.
3. Press ●REC/STOP (recording starts).
4. Start playback from the external source. (For details, refer to the owner's manual of the equipment.)

Listening with headphones

Reduce the volume level, and connect the headphones.
Plug type: 3.5 mm (⅛ in) stereo

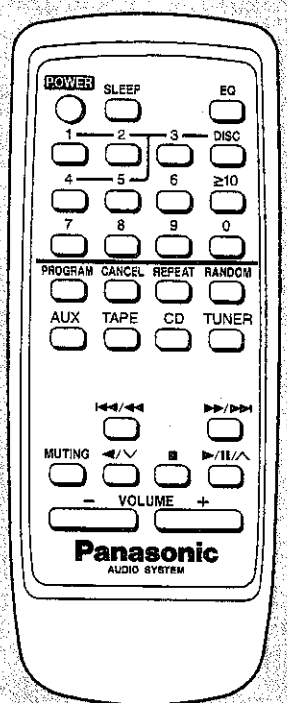
Note

Avoid listening for prolonged periods of time to prevent hearing damage.



Remote control buttons and functions

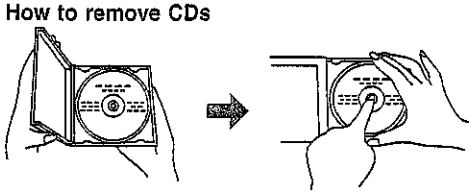
Reference pages are given as black circled numbers.



Button \ Source	Radio	CD	Tape	Other component
POWER	Turns the unit ON/OFF.			
SLEEP	For setting sleep timer 30			—
EQ	Sound quality/field ON/OFF and selection 25			
1 2 3 / 4 5 6 ≥10 / 7 8 9 0	For station selection (In PRESET mode) 11	•CD selection (1~5) •Track selection 14, 15, 17	—	—
DISC	—	CD select mode 14, 15, 17	—	—
PROGRAM	—	Engages program input. 15	—	—
CANCEL	—	Cancels program contents. 15	—	—
REPEAT	—	For selecting repeat playback mode 14	—	—
RANDOM	—	Random playback 14	—	—
AUX / TAPE / CD / TUNER	Input source selection 11, 13, 18, 31 •When power OFF One-touch playback begins by pressing TUNER, CD or TAPE. •When power ON Band can be switched with TUNER, and tape deck is switched with TAPE.			
⏮/◀◀ ▶▶/⏭	—	•Searching forward/ backward •Skipping forward/ backward 13	•Fast-forward/ Rewind (While stopped) •Finding the beginning of a tune 19	—
MUTING	Mutes volume temporarily. 31			
◀/∨	For station selection (∨, ∧) (In PRESET mode) 11	—	Playback (◄, ►) 18	—
►/II/∧		Playback (►) 13 Pause (II) 13		—
■	—	Stop 13, 18		—
– VOLUME +	For setting volume 11, 13, 18			

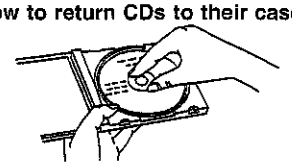
A

B How to remove CDs



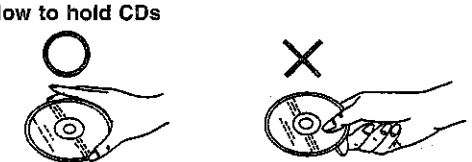
Press on center piece and lift from both sides.

C How to return CDs to their case



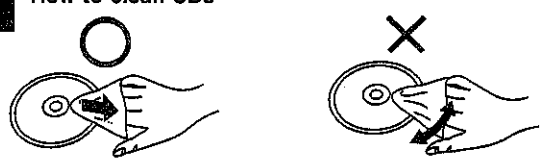
Face label upwards and press downward from above.

D How to hold CDs



Do not touch the recorded surface

E How to clean CDs



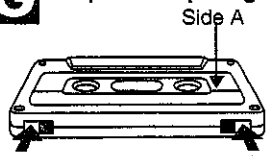
Wipe from inside outward.

F How to take up tape slack

Use a pencil or similar object to take up the slack.

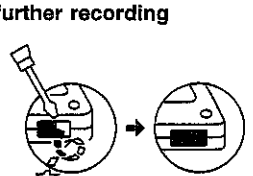
G To protect tapes against further recording

Side A



Tab for side "B"

Tab for side "A"

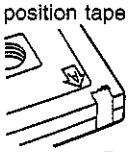


Use a screwdriver or similar object to break out the tab.

To re-record on a protected cassette

Cover the hole with adhesive tape.

Normal position tape



Hi-position tape

Do not cover the detection hole on hi-position tapes.

Detection hole

Concerning compact discs

With this player, you can only play compact discs having this mark.

COMPACT disc DIGITAL AUDIO

However, do not use irregular shape CDs. CDs of the sort can damage the unit. A

Handling precautions

Handle CDs as shown on the left (B ~ E).

- If you are taking the disc from a cold to a warm environment, moisture may form on the disc. Wipe this off with a soft, dry, lint-free cloth before using the disc.
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to CDs. (Do not use CDs with exposed adhesive from tape or left over peeled off stickers.)
- Do not use scratch-proof protectors or covers other than those specified for use with this system.

Storage precautions

Be sure to store discs in their cases to protect them from dust, scratches, and warping.

Do not place or store discs in the following places

- Locations exposed to direct sunlight
- Humid or dusty locations
- Locations directly exposed to a heat vent or heating appliance
- In the glove compartment or on the rear deck of an automobile

Concerning cassette tapes

Selection of cassette tapes

Tapes can get caught on the capstans. Use caution with the following types of tapes.

Cassette tapes exceeding 100 minutes

Tapes are made of a thin film material. Do not repeatedly advance and stop the tape, fast-forward it or rewind it.

Endless-tapes

For this unit, it is recommended to use the tape which is appropriate to the auto reverse mechanism.

Always read the instructions provided with your tapes.

Tape slack F

Tape slack may cause the tape to break.

Erasure prevention G

Storage precautions

Do not place or store tapes in the following places

- In high temperature (35°C or higher) or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Locations exposed to direct sunlight

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
Problems common to all systems			
There is no sound when the power is ON.	Volume is set too low.	Adjust the volume level with the volume control.	11, 13, 18
The location of the various musical instruments is not well defined.	The (+) and (–) connections to one of the speakers are reversed.	Connect the speaker cords correctly.	6
The left and right sounds are reversed.	The left and right connections to the speaker are reversed.	Connect the speaker cords correctly.	6
When listening to the external unit, the left and right sounds are reversed.	The left and right connections to the external unit are reversed.	Connect the external unit's cord correctly.	7
Only one speaker is emitting sound.	One of the wires of the speaker cord is disconnected.	Connect the speaker cord correctly.	6
There is no sound when a source is being played.	The (+) and (–) wire of the speaker cords are shorted.	Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power.	6
"ERROR" message appears on the display.	Wrong operation has been done.	Operate the unit correctly by following the operating instructions.	
"-- : --" appears on the display.	• You plugged the power cord in for the first time. • There was a power failure recently.	Set the time.	9
While listening to FM broadcasts			
There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast.	The transmitting station is a long distance away.	If you are using an indoor antenna, change to an outdoor antenna.	7
You hear excessive noise during a stereo broadcast, and occasionally the sound disappears.	The installation location and orientation of the antenna are unsuitable.		
The stereo indicator ("ST") flickers and does not light completely.	The transmitting station is a long distance away.		
	The power of the TV set or VCR is ON.	Try switching off the TV set or VCR.	
The sound during a stereo broadcast is highly distorted.	There is a building or mountain nearby. [Distortion is caused by interference between the signal from the transmitting station (direct wave) and the signal reflected from the building or mountain (reflected wave).]	Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception.	7
While listening to AM broadcasts			
You hear an unusual beat sound.	You are using the system at the same time you are playing a TV set.	Switch off the TV set, or use the system further away from it.	
You hear a low-frequency hum.	The antenna wire is near the power cord.	Separate the antenna wire from the power cord.	

Problem	Probable cause(s)	Suggested remedy	Reference page(s)
When there is a television set nearby			
The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect.	If you are using an indoor antenna, change to an outdoor antenna.	7
	The wiring at the back of the system is unsuitable.	Separate the antenna wire of the TV set from the system.	
When listening to tapes			
Sound is low, intermittent, poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads.	35
The deck does not enter the recording mode.	The erase-prevention tabs have been removed from the cassette.	Attach tape to cover the space left by removal of the erase-prevention tabs.	33
While listening to compact discs			
The display does not show the correct indication. Disc play does not start when you press the play button.	The disc is upside down.	Set the disc with the label facing upward.	12
	The disc is dirty.	Wipe the disc with a soft cloth.	33
	The disc is scratched.	Replace the disc with a new one.	
	The disc is badly warped.		
	The disc is a nonstandard one.	Replace the disc with a different one.	33
	There is condensation inside the CD changer.	Wait for 60 minutes before using the CD player.	
A certain music passage can't be played correctly.	The disc is dirty.	Wipe the disc with a soft cloth.	33
While using the remote control			
The system cannot be operated with the remote control.	The batteries are installed in the reverse polarity.	Re-insert the batteries observing the correct polarity.	5
	The batteries are run-down.	Replace the batteries with new batteries.	5

Maintenance

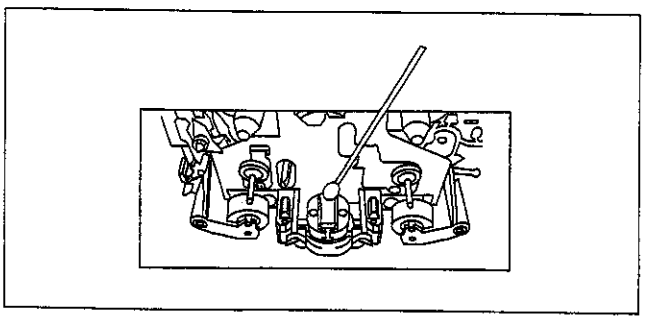
If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner, benzine, or chemically treated cloths to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

We recommend that you periodically clean parts (the shaded portion in the figure below) the tape contacts like the heads.
Do not use any solution other than alcohol for head cleaning.



Technical specifications

AMPLIFIER SECTION

1 kHz continuous power output
both channel driven
(For Australia and New Zealand) 2 x 32 W (THD 1 %, 6 Ω)
(For others) 2 x 28 W (THD 1 %, 6 Ω)
RMS 2 x 40 W (THD 10 %, 6 Ω)
Total harmonic distortion
Half power at 1 kHz 0.1 % (6 Ω)
Frequency response
AUX
(For Australia and New Zealand) 60 Hz – 20 kHz (-3 dB)
(For others) 20 Hz – 20 kHz (-3 dB)
Input sensitivity
AUX 250 mV
Input impedance
AUX 13 kΩ

FM TUNER SECTION

Frequency range 87.50 – 108.00 MHz
Sensitivity 23.3 dBf
Total harmonic distortion
MONO 0.3 %
STEREO 0.5 %
S/N
MONO 60 dB
Antenna terminal(s) 75 Ω (unbalanced)

AM TUNER SECTION

Frequency range 522 – 1629 kHz
Sensitivity (at 999 kHz, 1000 kHz) 250 μV/m

CASSETTE DECK SECTION

Track system 4 track, 2 channel
Heads
Record/playback Solid permalloy head
Erasure Double gap ferrite head
Motor DC servo motor
Recording system AC bias 100 kHz
Erasing system AC erase 100 kHz
Tape speed 4.8 cm/s
Frequency response
NORMAL 35 Hz – 14 kHz (+1 dB, -3 dB)
HIGH 35 Hz – 14 kHz (+1 dB, -3 dB)
S/N 50 dB (A weighted)
Wow and flutter 0.14 % (WRMS)
Fast forward and rewind times
Approx. 120 seconds with C-60 cassette tape

CD SECTION

Sampling frequency 44.1 kHz
Decoding 16 bit linear
Beam source/wave length Semiconductor laser/780 nm
Number of channels 2 channels, Stereo
Frequency response 20 Hz – 20 kHz (+1 dB, -2 dB)
Wow and flutter Below measurable limit
Digital filter 8 fs
D/A converter MASH (1 bit DAC)

SPEAKER SECTION

Type 2 way speaker system
Speaker(s)
Woofer 12 cm cone type
Tweeter 6 cm cone type
Impedance 6 Ω
Input power 100 W (MUSIC)
50 W (DIN)
Output sound pressure level 85 dB/W (1.0 m)
Cross over frequency 8 kHz
Frequency range 45 Hz – 22 kHz (-16 dB)
Dimensions (W x H x D) 210 x 330 x 229 mm
Weight 3 kg

GENERAL

Power supply AC 50 Hz, 230 – 240 V
Power consumption 115 W
Dimensions (W x H x D) 270 x 330 x 290 mm
Weight 7 kg

Notes:
1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

MASH is a trademark of NTT.

Before moving or shipping this system

Prepare the system as described below to prevent damage to the mechanism.
1. Remove all CDs.
2. Press CD.
3. Press ■ for 5 seconds or more.
   The display will change from "WAIT" to "LOCKED" to "GOODBYE" and finally "ZZZ". Then, the unit will be turned OFF automatically. (This will set the so-called "shipping mode".)
4. Unplug the stereo.

The shipping mode will turn OFF automatically when you turn the power ON the next time.

En

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

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L1297T0(M)